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ABSTRACT

Designed for use in farm business management adult programs, this marketing curriculum includes six teaching lessons and professional staff products. The following topics are covered in the lessons: introduction to marketing; interpretation of price/demand/supply cycles and fundamental outlook trends (carryover/projections/disappearance); farmers' marketing alternatives to the cash grain market; using the futures market and understanding the function of the commodity exchanges; farmers' marketing alternatives using the futures market for hedging; and factors to consider in reaching a marketing (selling) decision. Also included is a special assignment dealing with development of a written marketing plan. Each unit contains sections on student objectives; transitions between units; the lesson itself (including attention focusers, suggested teaching strategies, key questions, and learning activities); a summary; an at-the-farm activity; lists of needed learning resources; references; and visuals for the curriculum. Also appended to the curriculum are a variety of charts, tables, problems, and handouts. (MN)

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AGRICULTURAL MARKETING

by

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SUGGESTED VISUALS AND REFERENCES

VISUAL AIDS: Films - Slides with Tapes

Films

"The Vital Force"

Modern Talking Picture Service
2323 New Hyde Park Road
New Hyde Park, N.Y. 11040 or

Venard Films
Box 1332
Peoria, Illinois 61654

"People, Products & Prices"

Modern Talking Picture Service
2323 New Hyde Park Road
New Hyde Park, N.Y. 11040

Slides - Tapes

"Dealing with Risk in Farm Decision Making"

Source: $200

A. Gene Nelson
Extension Farm Management Specialist
Department of Agricultural and Resource Economics
Oregon State University
Corvallis, OR 97331

Available: Tommy Reff
Farm Management Specialist
N.D. Cooperative Extension Service
North Dakota State University
Fargo, N.D. 58105

"Developing a Marketing Plan"

Available: Norman Toman
Livestock Marketing Specialist
N.D. Cooperative Extension Service
North Dakota State University
Fargo, N.D. 58105

TEXTS BOOKS

"Profit Marketing" Doane Agricultural Service, Inc., 8900 Manchester Road, St. Louis, Missouri 63144.

"Economics" by Roy, Corty and Sullivan, Interstate Printers and Publishers, Inc., Danville, Illinois 61832.

"Agricultural Marketing" by Purcell, Wayne D., Reston Publishing Company, Inc.-A. Prentice Hall Company, Reston, VA 22090.

"An Introduction to Grain Marketing" by Wills, Walter J., Interstate Printers and Publishers, Danville, Illinois 61832.

Texts Books - Continued

"Professional Hedging Handbook" by Oster, Merrill J., Professional Farmers of America, 219 Parkade, Cedar Falls, Iowa 50613.

"Understanding Basis: The Economics of Where and When", Board of Trade Clearing Corporation, 141 West Jackson Boulevard, Chicago, IL 60604.

"Futures and The Farmer", U.S. Department of Agriculture Economics and Statistics Service, Room 505 GHI, USDA, Washington, D.C. 20250.

"The Hedgers Handbook", The Marketing Advisory Service, 1200 35th St. West, Des Moines, Iowa 50265.

OTHER REFERENCES

Hedging Kit

"Bibliography and Information Source List"
"How to Make Livestock Futures Work For You"
"Futures Trading in Live Beef Cattle"
"Futures Trading in Live Hogs"
"Futures Trading in Feeder Cattle"

Chicago Mercantile Exchange
444 West Jackson Boulevard
Chicago, Illinois 60606

"Charting Farm Markets" by Richard A. Brock, Richard A. Brock and Associates, 700 North Water Street, Milwaukee, Wisconsin 53202.

"Commodity Futures for Profit" by Merrill J. Oster, Professional Farmers of America, 219 Parkade, Cedar Falls, Iowa 50613.

"Developing a Marketing Plan", Professional Farmers of America, 219 Parkade, Cedar Falls, Iowa 50613.

Lesson 2 References

"Cattle Economics Report - Guidelines" from National Cattlemen's Association, P.O. Box 569, Denver, CO 80201.

Circular EC-678, "Grain and Livestock Market Information", Bulletin Room - College Station, NDSU, Fargo, ND 58105.

"Farmers Newsletter", Crop Reporting Board, Room 0005-S, USDA, Washington, D.C. 20250.

"Progress Report - Newsletter", North Dakota State Wheat Commission, 1305 East Central Avenue, Bismarck, ND 58505.

"Supply and Outlook Data", by Commodity - Source, Top Farmers of America, 225 East Michigan, Milwaukee, Wisconsin 53202.

Text Books-Continued

Lesson 3 References

"Teaching Guide for Marketing Alternatives in the Cash Grain Market" by Hugh J. McDonald.

"Market Alternative for Producers of Wheat" by National Association of Wheat Growers.

"Forward Pricing with Cash Contracts" Circular EC-641 by Hugh J. McDonald.

Lesson 4 References

"Understanding the Commodity Futures Markets" Cargill Incorporated.
"Futures and the Farmer, U.S. Department of Agriculture Economics and Statistics Service.

Lesson 6 References

"USDA Commodity Supply - Distribution Charts", Crop Reporting Board. Room 0005, USDA, Washington, D.C. 20250.

"Palmer Drought Index", in weekly Weather and Crop Bulletin, NOAA/USDA Joint Agricultural Weather Facility, USDA South Building, Room 3526, Washington, D.C. 20250.

"Planting Intentions Report", Crop Reporting Board, Room 0005, USDA, Washington, D.C. 20250.

"Using Commodity Price Charts", Commodity Price Charts, 219 Parkade, Cedar Falls, Iowa 50613.

"Charting Farm Markets", Top Farmers of America, 22 E. Michigan, Milwaukee, Wisconsin 53202.

"Charting Commodity Prices" EC-643 Cooperative Extension Service, North Dakota State University, Fargo, N.D. 58105.

"Weekly Marketing Charts", Richard A. Brock and Associates, 700 North Water Street, Milwaukee, Wisconsin 53202.

"Charting the Grain Futures Market" by Louis M. Thompson, Iowa State University, Ames, Iowa 50010.

FUT GAME - AGNET

"Futures Marketing Simulation". Instructor should use trading slips as to Commodity - Month - Buy - Sell - and Stop Orders by Client (Class) participants. Instructor should type - (submit) the data to AGNET from the trading slips and the computer terminal will return a printout of the futures (speculating) transactions.

AGRICULTURAL MARKETING NEWS SERVICES

Doane Agricultural Service, Inc. 8900 Manchester Road St. Louis, Missouri 63144	$32.50/year Weekly Newsletter $_____ Marketing Charts
The Kiplinger Agricultural Letter The Kiplinger Washington Editors 1729 H Street N.W. Washington, D.C. 20006	$36.00/year Two Newsletters/month $_____ Kiplinger Report
Professional Farmers of America 219 Parkade, Cedar Falls, Iowa 50613	$88.00/year Pro Farmer Newsletter/week Toll Hotline $_____Additional Marketing Services
Top Farmers of America 225 E. Michigan Milwaukee, Wisconsin 53202	Top Farmer Newsletter and Charts Weekly $335/year Toll Free Hotline
Ag Marketing Services P.O. Box 1176, 627 S. 2nd St. Mankato, MN, 56001	Farm Market Charts - Weekly Newsletter $200/year depending on other services
Farmers Grain and Livestock Corporation 1200 35th Street West Des Moines, Iowa50265	Market Charts - Weekly Newsletter $100/year depending on services used
Cattle-Fax P.O. Box 989, 1001 Lincoln Street Denver, CO 80201	Weekly Report - Must be a member of National Cattlemens Association About $75/year plus token fee based on herd size.
Western Livestock Roundup Livestock Marketing Specialist Cooperative Extension Service NDSU, Fargo, N.D. 58105	Monthly Livestock Situation and Outlook, Free Regional Western States Livestock Marketing Project
Richard A. Brock and Associates 700 North Water Street Milwaukee, Wisconsin 53202	Brock Report - Weekly Newsletter $285 - Weekly Market Charts Toll phone hotline
R.W. Allen Financial Services Sunflower World Publications P.O. Box 3189, 2224 East 12th St. Davenport, Iowa 52808	Speciality Report - Marketing Service, $850/year Personalized Market Plan

INTRODUCTION TO MARKETING

Part I. Student Objectives.

A. To define markets and marketing.

B. To introduce students to the basic concepts related to the need for and evaluations of markets.

C. To know the marketing functions.

D. To be familiar with the physical market channels.

Part II. Transition of Units.

As you, the instructor, begins to teach [redacted] Agricultural Marketing Course to a group of farmer-rancher clients, admittedly the degree of background, knowledge and experience will vary among each participant. It will therefore be exceedingly important to review the previous session highlights before proceeding into the next topic in this Agricultural Marketing curriculum.

Part III. The Lesson.

Attention Focuser.

Ask the students why we have markets. (Hand out sheet of paper and have them write their definition.)

Suggested Teaching Strategy.

After comparing the definitions that each client cited for markets, the instructor will share his definition of marketing, of markets and concept of marketing economics with the participants. Special emphasis will be devoted to principles of marketing as these relate to principles of economics. The basics of marketing functions, food marketing channels, laws of supply and demand and the characteristics of food commodities as well as consumer preferences will be covered. The economic forces that affect grain supply and demand for food commodities shall be addressed. Finally, an anatomy of a Marketing System shall provide the review and summary of the discussion.

The teacher should attempt to use examples of realistic present-day situations that will help participants understand the complexity of the food chain and/or Agricultural Marketing system from producer to consumer.

Key Question 1. What is marketing?

A. "Marketing is the performance of all business activities involved

in the flow of goods and services from the point of initial agricultural production until they are in the hands of the ultimate consumer." (Kohls, Marketing of Agricultural Products)

Key Question 2. What are markets?

A. "Market area of space wherein all buyers and sellers are highly sensitive to the transactions made by each other. What one does affects the other." (Kohls, Marketing of Ag Products)

1. Types of Market.

a. Local (Visual 1)
b. Regional (Visual 2)
c. National
c. International (Visual 3)

Key Question 3. What is the concept of Marketing Economics?

A. Definition -- Performing the business activities involved in the flow of goods and services from the point of initial production until they are in the hands of the ultimate consumer.

B. Decision making.

C. Coordination of activities. (Visual 4)

D. Provides for specialization in production. (Visual 5)

1. Efficiency.

2. Any step in marketing must perform a useful service if it is to survive.

Key Question 4. What is the aim of Marketing Activity?

A. Maximize human satisfaction from scarce resources.

1. Does not define which values or ends are important.

2. Society defines its own values.

3. Mankind controlling resources insofar as possible to accomodate his desires.

Key Question 5. What is meant by consumer-oriented economy?

A. Direct demand and consumer's choice.

B. Individual and total demand for food.

1. Scheduled demand at each price level.

C. Consumer's choice.

Key Question 6. Why do people trade? (Visual 6)

Scarcity is a relationship between the amount of a good available and the value people place on it. For example, air has until recently been considered a free good because there was plenty to go around. Now that people have used it as a dumping ground to avoid the cost of removing pollutants, it may become more valuable. Then, it will be scarce.

Douglas MacGregor in his book, The Human Side of Enterprise, in 1960 made a list of man's wants. "Consider your need for air," said MacGregor. "Except as you are deprived of it, it has no motivating effect on your behavior," and, he added, "man lives by bread alone only when there is no bread."

After his physical needs are satisfied, man shifts his attention to safety needs, security from danger and deprivation.

Once these needs are taken care of, he begins to focus his attention on his social needs -- fellowship, warmth, human contact.

As soon as his social needs are assuaged, man's ego needs come into play. He seeks to improve his esteem in the eyes of his associates. Finally, he reaches for self-fulfillment and he becomes creative.

Certainly there is some ordering in values which people place on things. But even at the level where food is the first order of things, we can be reminded of the story of the castaways on an island where coconuts grew on the south end and wild pigs lived on the north end (...although for the life of

me I don't understand why the wild pigs didn't live where the coconuts were). Anyway.. one group of castaways monopolized the coconut end and the other group monopolized the wild pig end, and they traded pigs for coconuts and vice versa. On the coconut end, coconuts had no value because they were not scarce; on the pig end, pigs had no value because they were not scarce. But to the others these objects were scarce and trading created a value for each one. Trade increases value.

The north end specialized in wild pig production and catching, and the south end specialized in coconut production and picking. However, the southern end castaways discovered that wild pigs liked coconuts and began to grow their own wild pigs. They, therefore, did not need to trade with the north end, precipitating bloody battles as the northerners tried to steal pigs and coconuts. The have and have nots were at it again.

Then, one day a northerner discovered a vein of gold nuggets. Being well fed, the southerners went wild over these gold nuggets to satisfy their ego and to gain the self-esteem of their fellows, and were willing to sell pigs and coconuts at low prices to get them. As a matter of fact, they became so enamored of the gold, they spent all their time fashioning beautiful things. With no time to grow pigs, they let the northerners grow the pigs for them, while providing them with coconuts to do so.

In other words, while the southerners had an absolute advantage in the production of coconuts and the northerners an absolute advantage in gold production, trade restored the wild pig production to the north because the southerners valued their time more highly in other occupations. This gave the northerners a <u>comparative</u> advantage in wild pig production.

Trade comes about through an ordering of values. And trade makes it possible for one person or group to specialize in one type of production and

trade for others. Each adds to the value of the products he acquires, for no one willingly trades unless he gains. Thus, both traders gain and total value has increased.

The growth of our country abounds with examples of changes of trading patterns. As people settled on virgin land, usually along rivers where supplies could be brought in by water and tradable goods shipped out, the settlers wanted goods from other areas. They needed seeds, tools, guns and ammunition, salt, and other "necessities." So they trapped for furs, grew indigo, tobacco, corn, cotton, and salt pork and produced other exportable items. They sold these in various "markets."

Markets were contracts with people--auctioneers, peddlers, shipowners, tradesmen. Anywhere a situation developed where trade could take place was a market. And prices depended on the situation at a given location, at a given time for a given quality of a specified form of a particular product

Some tradesmen began to specialize. Tinsmiths, gun makers, candle makers, tanners, drovesmen, ferryboat operators, and lawyers developed as soon as enough business existed to employ them. All traded their services to provide themselves with their needs.

As they moved west, settlers did not necessarily produce at lower cost than they did back in civilization. They just took less for their labor in exchange for such items of food as they could transport east in order to have anything to trade at all. An ironmonger in Philadelphia found it to his advantage to produce tools even though he could raise pigs cheaper than the Ohio settler. This gave the Ohio settler a comparative advantage. The comparative advantage was born out of specialization and trade. The market was the contact between them.

As people moved to California, a head of lettuce was about as valuable as gold. Now a hundred years later, with tax money subsidizing its growth by bringing water to arid areas, subsidizing the railroads and bringing in migrant workers, lettuce is cheaper. They have a comparative advantage, in part, based on subsidy. On the other hand, if union workers demand and get union wages, the comparative advantage may shift to some other area.

In summary: (Visual 7)

1. Wealth can be increased by means of trade.
2. People specialize because they can increase this wealth by doing so.
3. They specialize in activities in which they have comparative advantage.

Key Question 7. What are marketing functions? (Visual 8)

A. Exchange.
   1. Buying.
   2. Selling.

B. Physical handling. (Visual 9)
   1. Transportation.
   2. Storage.
   3. Processing.
   4. Packaging.

C. Facilitating. (Visual 10)
   1. Grading and standardization.
   2. Information.
   3. Risk-bearing.
   4. Financing.

Key Question 8. What are food marketing channels? (Visual 11)

A. Title and ownership flow.

1. Farm.

2. Assemblers.

3. Transportation.

4. Consumer.

B. Physical flow.

1. Producer.

2. Processors and wholesalers.

3. Retailers.

4. Eating places.

5. Consumers.

C. Create equilibrium among specialists.

Specialization has increased total production.

Key Question 9. What are the characteristics of agriculture that affect marketing?

A. Farmer -- consumer ratio.

1. Compare current with some historical time period.

2. Bargaining position.

B. Supply response and competitive situation.

C. Pure competition.

D. Time lag in production response.

1. Cob Web theorem.

Since changes in both supply and demand are continuously occurring, the market is always in search of, but never quite reaching equilibrium.

2. Production cycles (Hogs, etc.).

Time lag requires a market structure that can deal with specialized problems.

E. Biological responses to weather and other uncontrollable forces.

F. Supply and demand.

1. Law of supply.

2. Law of demand.

Key Question 10. What are the characteristics of food products that affect marketing of food?

A. Seasonal production.

B. Storability, perishability.

C. Bulkiness.

D. Quality.

E. Class, variety.

F. Size.

G. Palatability.

H. Holiday products.

I. Substitutability.

J. Nutritive values.

Key Question 11? What are the characteristics of consumers that affect food marketing? (Especially when looking at a new speciality crop).

A. Social habits and ethnic customs.

1. Eating habits.

a. No. of meals - coffee breaks.

b. Consumption habits change.

1) Age groups.
2) Income groups - effective demand.
3) Women holding jobs - affected by educational level, etc.

2. Geographic location, customs, religion, nationality.

a. Oriental - fish.
b. India - non-animal.
c. Jew - non-pork.
d. Middle East - bulgur.
e. North Dakota - steak and potatoes.
f. Alabama - grits, black-eyed peas, and red-eye gravy.

B. Income influences food requirements.

1. Initially, as a family income increases, a greater total amount is spent for food.

2. After reaching up to minimum subsistence level, a smaller percentage of increased income is spent for food.

3. After a satisfactory consumption level is reached, the diet is upgraded, not expanded.

4. As income increases, consumption mix shifts.

5. Smaller families generally have higher per capita income.

C. Climate-temperature.

D. Health and nutrition.

E. Knowledge of product - advertising.

F. Occupation or physical activity.

Key Question 12. What are the important physical components of grains affecting marketing?

A. Protein -- complex combination of amino acids (tissue building constituents).

1. Gluten forming (high elasticity of protein).

2. Non-gluten forming.

B. Starch.

C. Dextrin -- a form of grain sugar which makes grains liable to ferment.

D. Oils.

E. Fiber -- substances contained in hulls of grain which are by-products of milling and processing industries. Bran is an example.

Key Question 13. What economic forces affect adjustment of grain supply and commodity demand?

A. Natural forces.

1. Seasonal harvest.

2. Utilization throughout year.

3. Crop growing conditions.

B. Economic forces.

1. Demand.

a. Industry as a whole.

1) Scale of list of preferences.

2) Nature of the scale: i.e., elasticity.

b. Individual buyer.

1) A component of industry.

c. Faced by individual seller.

2. Supply.

a. Industry.

b. Individuals as a component of industry.

c. Non-reversible and slow response.

1) Fixed capital costs.

2) Price linkage among alternatives.

Key Question 14. What is included in the anatomy of a marketing system? (Summary and Review) (Visual 12)

A. Marketing involves a two-way flow. Products (i.e., goods and services) move from producers to consumers. Money flows from consumers to producers; and information may flow in either direction.

B. Marketing includes all of the economic activities related to the flow of products, money and information between the point of initial production and the point of final consumption.

C. The term marketing is derived from the movement of products through a market or through a system of markets.

D. A market is a point of excnange within a marketing system.

E. There are two general types of functions performed within marketing systems.

1. Tangible functions: physically changing the form, place, time, or possession of the product.

   a. Processing, grading and assorting.
   b. Transporting, assembling and distributing.
   c. Storing and allocating.
   d. Buying and selling.

2. Intangible functions: coordinating production and physical marketing functions with the preferences of consumers.

   a. Pricing.
   b. Financing.
   c. Risk-bearing.
   d. Informing.
   e. Decision making.

Part IV. Summary.

A. Markets exist because they provide a necessary function in the food chain.

B. Marketing is a necessary activity for farmer producers to participate in.

C. Laws of supply and demand affect commodity price.

D. Specialization and comparative advantage do play a significant role in price structure of commodity trade.

E. Anatomy of the marketing system illustrates the tangible and intangible functions.

Part V. At-The-Farm Activity.

Discuss the current enterprise(s) raised on the farm or ranch and

have the client determine the reasons for continuing with the same options. Provide the client an opportunity to study and research the alternative choice of enterprise(s) that may fit his/or operation. Explain the opportunities that may exist in the local area for enterprise specialization and/or comparative advantage to the producer of certain commodities.

Part VI. Learning Resources.

Chalk board.
Overhead projector.
Transparencies: Visuals 1 through 12.

Part VII. References.

"Economics" by Roy Corty-Sullivan, Interstate Publishers.

"Introduction to Grain Marketing" by Walter J. Wills, Interstate Publishers.

"Profit Marketing", Doane Agricultural Service, Inc.

Part VIII. Appendices.

A. Visuals 1 through 12.

Lesson 2

INTERPRETATION OF (PRICE-DEMAND-SUPPLY) CYCLES AND FUNDAMENTAL OUTLOOK (CARRYOVER-PROJECTIONS-DISAPPEARANCE) TRENDS

Part I. Student Objectives.

A. To recognize how supply and demand of commodities determine price.

B. To become familiar with the price cycles, trends and seasonal fluctuations.

C. To identify, solicit and use current market information to maximum advantage.

D. To interpret current carryover stock figures and incorporate these into new crop projected figures for commodity outlook marketing situation.

E. To analyze the current market situation on the basis of fundamental and technical kinds of impact factors.

Part II. Transition of Units.

The first lesson (Introduction to Marketing) has examined the role of supply and demand upon the price received by farmers for agricultural commodities. A review of the marketing concepts (principles of marketing) as these relate to farm management (principles of economics) are necessary at this point in time. The participants should have a vivid image of the previously covered characteristics that affect consumer demand for various commodities and in turn how these influence the market (price) situation.

The anatomy of a marketing system overview should provide an excellent means to tie the previous lesson to the lesson on cycles, trends and seasonal fluctuations. The understanding of comparative advantage and specialization in production of commodities further aids the participants in recognizing such impacts upon marketing results.

With the thorough review cited, the participants should be ready to move into the study of where information can be obtained and how it should be interpreted.

Part III. The Lesson.

Attention Focuser. (Visual 1)

Does it pay to improve your marketing?

Suggested Teaching Strategy.

The main thrust of this lesson is to acquaint participants with the means of obtaining accurate and current supply (carryover) information and to be able to interpret the data when it is added to the outlook (projections) situation. Numerous charts, sources of information and market data services shall be shared with members of the class.

Provide sample copies of the sources of market information to the clients in the class in handout form (refer to appendices). A real effort should be made to help the participants learn how to obtain the latest most current and accurate supply data and then to be able to interpret the information as it affects future price fluctuations.

The current outlook (Commodity Supply Data) visuals should be continually updated. These data can be obtained from the specific commodity USDA publications or from subscribing to one of several (private) Ag-Marketing Services.

Key Question 1. How can cycles, trends and seasonal fluctuations aid price analysis? (Visual 2)

A. Function of prices in competitive economy.

1. To guide and regulate production.
2. To guide and regulate consumption.
3. They are to guide and regulate the distribution both over a period of time and place to place.

B. Heart of price formation in a competitive society is the supply and demand analysis.

C. Supply is the schedule of quantities that will be offered for sale at different prices at a given time and place.

D. Demand - Schedule of different quantities of a commodity that buyers will purchase at different prices at a given time and place.

E. Elasticities of supply and demand.

1. Elasticity of supply is the measure of how much the quantities supplied will change when there is a given change in price.

2. Elasticity of demand is a measure of how much the quantity demanded will change to a given change in the price.
3. Elastic demand is determined by the degree of substitutability.
4. Inelastic demands are usually those that have no substitutes or are necessities.

F. Elasticity of supply.

1. Time is an important factor with supply elasticities.
2. Only a certain amount can be supplied in a set period.
3. Price changes can be large because supplies are fixed in short run (inelastic).

G. Farmers force elastic demand curve; while industry inelastic demand curve.

Key Question 2. How do cyclical price fluctuations occur? Why?

A. See this more in livestock than in crops-cattle 10-12 years, hogs 4-5 years.

B. Production cycles.

C. Price cycles.

1. Base tomorrow's production on today's prices.
2. Biological response.

Key Question 3. What effect do seasonal price fluctuations have upon the market outlook?

A. Occur throughout the year.

B. Low point in harvest, higher just before harvest. (General statement - not always true.)

Key Question 4. How do trends affect price when viewed historically over a period of time? (Handout 1)

Discuss the implications of the cattle cycle when studied from the historical sketch - Table 1 - Inventory Indicators.

Key Question 5. How does sensitivity of market decisions affect price?

A. There is a considerable amount of substitution possible within the classification value of grain. A classification value of grain is based on its least valuable use. Example would be with the protein classification system of wheat. Higher protein grain has more value than low protein grain (with the exception of malting barley.)

B. Grains have the ability to command a price.

1. Because they are useful.

2. When they are scarce.

Key Question 6. What kind and sources of market information are available to farmers?

A. Essential to managers to have up-to-date information on the markets. This information can help make the following:

1. Making production decisions.

a. What and how much to produce?
b. When and where to produce?

2. Making marketing decisions.

a. When and where to buy or sell?
b. What are the most efficient marketing tools?
c. Planning the product to suit consumer's wants?
d. Where to hedge for greatest advantage?

B. Factors affecting usefulness of market information.

1. Accuracy.

2. Completeness.

3. Timeliness.

4. Skillful interpretation.

(News that you hear on the radio is old news as far as the market goes. You also need to realize how this news will affect supply and demand.)

C. Public information important in agricultural marketing.

1. Small producers vs. large buyers.

2. Production is widely scattered.

a. General crop and market conditions can be much different than local conditions would seem to indicate.
b. Railroads, warehouses, etc. need information on overall conditions to coordinate their operations properly.

Activity: Hand out extension bulletin (Grain and Livestock Market Information) on where information can be secured. Discuss. (Handout 2)

Key Question 7. How is market information classified?

A. Type of information.

1. Basic data.

2. Interpretation of data.

3. Advice or recommendations.

B. Standpoint of time.

1. Historical.

2. Current.

3. Forecast.

Key Question 8. What are the public and private sources of market information?

A. Public agencies:

1. Federal -- USDA, Dept. of Commerce, Labor, etc.

2. State -- Universities, Experiment Stations, Extension Service, State Boards of Agriculture, etc.

3. Local -- County agents, marketing agents.

4. International -- FAO.

B. Private agencies:

1. Boards of trade.

2. Trade associations.

3. Reports from commission houses and processors.

4. Market newspapers and magazines. Pro Farmer, Top Farmer, Farm Market Chats, etc.

5. Bank, Insurance Co., etc.

6. Commercial services (Kipplinger's letter, etc.)

Key Question 2. What kind of information is of importance in making marketing decisions? (Handouts 3, 4 and 5.) (Examples of Reports)

A. Crop reports.

1. Issued by Crop and Livestock Reporting Service, USDA, on or nearest to 10th of month.

2. Basis of the report.

a. Observations by experts.
b. Census of Agriculture each five years.
   1) Acreage.
   2) Yields.
   3) Grains used on farms.

c. Questionnaires and interviews with samples of farmers, processors, etc.

   1) Crop conditions in his area.
   2) His own operations.

B. Weather reports.

C. Price reports.

1. Private sources.

a. Ticker tape quotations from exchange to subscribers.
b. Telephone and telegraph.

   1) Floor to brokers.
   2) Brokers to customers.

2. Federal Market News Service (1915).

3. State Market News Services - N. Dak. Wheat Commission
   1-800-342-4914 (Handout 5)

D. Other reports.

1. Outlook report - USDA and states (Handout 6)
N. Dak. Crop and Livestock Reporting Service
P.O. Box 3166, Fargo, N. Dak. 58108

a. Periodic reports by USDA on various commodities.

1) The Wheat Situation.
2) The Feed Situation.
3) The Fats and Oils Situation.
4) Many other reports (peanuts to cotton).

b. Periodic reports of state agencies such as the North Dakota State Wheat Commission, 1305 East Central Ave., Bismarck, N.D. 58505.

2. Foreign agricultural services of USDA.

Key Question 10. What are some weaknesses of marketing information? (Visual 3)

A. Radio and newspaper reports not specific enough.

1. On price range.

2. On quantities sold at top or bottom prices.

B. Difficult to translate central market prices into value of product locally.

C. Radios and newspapers often give reports on only one market.

D. Possible transmission of false or misleading reports that affect prices.

Key Question 11. How should we read market reports?

A. Commodity.

B. Stock exchange.

C. Watch Wheat Market Analysis.

D. Wheat Market Watcher's Guide.

Key Question 12. How should current supply (carryover) and production demand (projections) aid marketing decisions? (Visual 4)

A. Supply - current year compared with past.

1. Production.

a. World.
b. USA.

2. Carryover.

a. World.
b. USA.

B. Disappearance - current year compared with past.

1. Domestic.

a. Food.
b. Feed.
c. Seed.
d. Industrial use.

2. Exports - current year compared with past.

a. Competition from other exporters.

C. Government programs.

1. Impact on production, use, price, if any.

D. Price prospects.

1. Expected trend for the year.

2. Expected range for the year for North Dakota.

3. Bullish and bearish factors, if any, from supply and demand sectors.

Key Question 13. What is the current outlook for the various agricultural commodities? Cite: (These must be updated. Only examples.)

A. Wheat situation and outlook. (Visual 5)

World wheat production, use, beginning and ending stocks.

World wheat production is up an estimated 6% from last year. Larger crops in the USSR, Europe, Pakistan and the U.S. offset smaller crops in China, Australia, India and possibly Canada and Argentina.

Beginning stock at 87 mmt (million metric ton) are down sharply from last year but stocks are expected to build up again this year.

If use remains below last year's 438 mmt, it will be the first

time since 1975-76.

There has been a slight revision in world production. As of September 1 world production was increased to 448 mmt. That increases total supply to 535.2 mmt, ending stocks to 98 mmt and ending stocks as a percent of use to 22.4%.

This ratio of ending stocks to use is not encouraging for continued price strength. In the mid 70's, this ratio was less than 18%.

U.S. Wheat (million acres) (Visual 6)

	Crop Year	1978	1979	1980
All Wheat	Planted	66,100	71,200	80,925
	Harvested	56,839	62,600	71,627
	Yield/Acre	31.6	34.2	32.9
HRS	*Planted	14,300	15,500	17,492
	Harvested	13,906	15,096	14,752
	Yield/Acre	30.0	28.2	25.2
Durum	Planted	4,100	4,000	5,475
	Harvested	4,024	3,932	4,845
	Yield/Acre	33.1	27.1	21.2

*The numbers reported for HRS are reported by USDA as other spring wheat and includes a small amount of white spring wheat. The total, however, is basically HRS.

The information from this table (wheat acreage) is the basis for the production numbers that go into the supply-demand tables.

All U.S. Wheat (Visual 7)
(million bushels)

	1978-79	1979-80	Projected 1980-81
Beginning Stock	1,177	925	901
Production	1,798	2,142	2,354*
Imports	1	1	2
Total Supply	2,976	3,069	3,257
Domestic Use	857	793	830
Exports	1,194	1,375	1,450
Total	2,051	2,168	2,280
Ending Stocks	925	901	977
Ending Stocks as % of Use	45%	42%	43%
U.S. Avg. Farm Price	$2.98	$3.82	$3.90-$4.25

*Production based on September 1 crop estimate.

Beginning stocks - Down slightly from last year.

Of the 901 million bushels, 142 million bushels owned by CCC and about 240 million in the 3-year reserve July 1. Around 200 million now in the reserve.

Production - All time record high despite drought. Record hard winter and soft winter crop.

Imports - USDA plugs in 1-2 million bushels to take care of a little imported seed and by-products.

Total Supply - Over 3 billion bushels for three of the last four years, and second year in a row.

Domestic Use - Is expected to increase about 40 million bushels. Mostly in the feed area. USDA is currently estimating feed use

at 125 million bushels compared to 96 million last year. This is probably a conservative estimate. Lots of HRS and Durum fit for feed but lack of livestock and the special loan program will keep feed use low. Seed use will remain near last year's 101 million bushel level as farmers are apparently planning to plant fence row to fence row again.

Food use will increase about 10 million bushels to 605 million bushels. The long-term down trend in wheat consumption has apparently stopped.

Exports - Are expected to be about 1,450 million bushels ± 100 million bushels. Exports to date would indicate that exports should at least equal last year's 1,375 million bushels.

Positive factors for U.S. exports are: (1) serious drought in Australia that if it continues will sharply reduce their export potential beginning in January, 1981. (2) China has purchased large quantities of wheat this year and probably more than what the USSR would have taken without the embargo. (3) USSR crop size and quality is still not known. They have had harvesting problems as has the U.S. and Canada. (4) Argentina is dry and needs rain. (5) Serious drought in Africa will keep aid shipments up.

Unfortunately, HRS and Durum will not share in the increased export prospects. Exports of all other classes are expected to increase.

Ending Stocks - Are expected to increase slightly to about 977 million bushels. This is 43% of this year's use and not conducive to price

strength. In 1974-75 this ratio is 19%.

Government Programs - The current national loan rate is $3.00 per bushel. This is expected to increase to $3.30 for wheat put in the three-year reserve. For 1980 crop wheat, all producers are eligible for the loan and other programs. It appears there will be no set-aside for 1981 wheat crop. The release price is currently $4.20 and the call price is $5.25. If the loan goes to $3.30 for the reserve, the release price goes to $4.62 and the call price goes to $5.78.

Price Prospects - The USDA is projecting the average U.S. farm price to be within a range of $3.90-$4.25. If the loan is increased to $3.30 and farmers use the reserve, prices may average in the upper end of the range for the year.

Hard Red Spring Wheat (Visual 7 continued)
(million bushels)

	1978-79	1979-80	Projected 1980-81
Beginning Stocks	335	324	292
Production	379	365	312
Imports	-	1	1
Total Supply	714	690	605
Domestic Use	158	181	160
Exports	232	217	180
Total Use	390	398	340
Ending Stocks	324	292	265
Ending Stocks as % of Use	83%	73%	78%

Carryover - Down about 10% from last year. On July 1, about 150 milli

bushels of the HRS carryover was isolated from the market in reserve or owned by CCC.

Production - Acreage less than expected and reduced yields due to drought and harvesting problems brought about a 15% cut in production. Under normal weather the HRS crop could have been over 400 million bushels. North Dakota production is estimated at about 110 million.

Imports - 2 million bushels. Just enough to allow for small amounts of imports for seed and feed purposes.

Total Supply - At an estimated 605 million bushels is sharply below last year's 690 million bushel level. This is a price-strengthening factor.

Domestic Use - Estimated at 160 million bushels compared to 181 million last year. This estimate may prove to be too high in light of the large amount of sprout damaged HRS this year which reduces the desirability of HRS for blending purposes.

With no set-aside expected for 1981, seed use is expected to remain at a high level but probably less than last year assuming sunflower acreage increases in 1981 which is a good bet at this time.

Exports - Are expected to decline also this year -- to the 180 million bushel range compared to 217 million bushels last year. Quality problems will also impact negatively on export prospects. Export competition will come mainly from high quality Hard Red Winter wheat.

Ending Stocks - Are expected to decline 25-30 million bushels. This

is a moderate reduction, but ending stocks are still about 75% of a year's use.

Government Program - The emergency loan program for damaged wheat is a price strengthening factor by helping farmers keep the damaged grain off the market.

Price Prospects - It seems reasonable to expect the release price of $4.20 for the national average farm price to serve as a practical ceiling at this time. The call price is not expected to be reached unless there is a basic change in world crop, weather or economic conditions. Prices will probably increase slightly following harvest and until the lakes close. Then look for weakness through the winter with strength again in the spring when the lakes open. If 1981 prospects are favorable, prices next spring may not reach the fall peak.

Look for a North Dakota season average price in the $4.00-$4.30 range. Poor quality wheat will average considerably below this range but good quality will likely sell at a premium above the range before the year is over. Protein premiums are not expected to improve much this year.

(Visual 7 continued)

	Durum (million bushels) 1978-79	1979-80	Projected 1980-81
Beginning Stocks	67	86	57
Production	134	107	103
Imports	1	1	1
Total Supply	202	194	161
Domestic	44	54	48
Exports	72	83	70
Total Use	116	137	118
Ending Stocks	86	57	43
Ending Stocks as % of Use	74%	42%	36%

Beginning Stocks - Down about one-third on June 1, 1980, compared to a year earlier level.

Production - Planted acreage was up about 35 percent, but poor growing conditions turned a potentially record-breaking crop into a crop slightly less than last year. Also, the quality of the crop is such that the actual production of good quality durum is considerably less than the estimated production of 103 million bushels. North Dakota production is expected to be about 70 million bushels.

Imports - Very little imported. Probably closer to zero.

Domestic Use - Is expected to decline slightly from last year's level due mainly to high prices instead of a declining preference for pasta products. Quality will also have a bearing on use.

Exports - Are projected to decline to the 70 million bushel range. Again, price and quality are key factors.

Exports Competition - Canada's crop is up this year, but they have experienced quality problems also.

Ending Stocks - Will decline to the 40-45 million bushel range compared to 57 million bushels last year, but still adequate.

Government Programs - The emergency loan program for damaged wheat is a price-strengthening factor by helping farmers keep the damaged grain off the market.

Price Prospects - Quality problems make price forecasting very difficult. Good quality durum should remain in the $6.00-$7.00 range through most of the marketing year. Discounts for poor quality should lessen following harvest.

Look for another big durum acreage in 1981 which will build supplies and depress prices. If that proves correct, it would be advisable to have 1980 crop sold and have 1/2 and 1/3 of the 1981 crop forward priced if contracts are favorable.

Feed Grains

World Situation

1980 world production is expected to decline about 6 million tons while use is expected to increase about 10 million tons; thus, world stocks of coarse grains at the end of the 1980-81 marketing year is expected to decline about 20 percent to about 71 million tons and to the lowest level in 5 years. This will be less than 10 percent annual use which means 1981 production will be critical to maintaining world supplies.

(Visual 7 continued)

Corn (million bushels)	1978-79	1979-80	Projected 1980-81
Beginning Stocks	1,104	1,286	1,701
Production	7,087	7,764	6,534
Imports	1	1	1
Total Supply	8,192	9,051	8,236
Feed	4,198	4,325	4,150
Food, Seed etc.	575	625	715
Total Domestic Use	4,773	4,950	4,865
Exports	2,133	2,400	2,500
Total Use	6,906	7,350	7,365
Ending Stocks	1,286	1,701	871
Ending Stocks as % of Use	19%	23%	12%
Avg. U.S. Farm Price	$2.25	$2.50	$3.00-$3.50

Beginning Carryover - Increased sharply this year, but about 600 million bushels is in the long-term reserve and CCC owned a couple hundred million, so the free stocks in carryover is much lower than the total.

Production - The September crop report placed production at 6.5 billion bushels. This is sharply below last year and the smallest crop since 1977.

Imports - Basically zero for all practical purposes.

Total Supply - At about 8.2 billion bushels it will make for a tight supply situation and the first time since 1974-75 that supply has been reduced.

Domestic Use - Feed use will be down moderately. Higher prices tend to cut feeding rates and the number of grain consuming livestock and poultry is expected to be down. Food and seed use will show little change but use for sweeteners and alcohol is increasing.

Exports - Are expected to reach a record 2.5 billion bushels, up slightly from last year. It seems as if there is no end to the growth in the corn export market.

Ending Stocks - If ending stocks end up at less than about 900 million bushels, corn will have to be taken from the reserve. This is a bullish factor.

Government Programs - Nothing in addition to what was said in wheat section. The loan rate is $2.25, the release price is $2.81, and the call price is $3.26.

Price Prospects - Following harvest weakness, prices are expected to advance seasonally. Prices are expected to increase to the call price of $3.26 nationally in order to draw corn from the reserve. With the short crop, prices could peak early in the marketing year. After prices hit the release price of $3.26 they can decline to $2.81 before the reserve would come into play again, so there is potential for some downside price movement after the release point is hit. Prices later in the year will depend on 1981 crop prospects.

(Visual 7 continued)

Oats
(million bushels)

	1978-79	1979-80	Projected 1980-81
Beginning Stocks	311	287	239
Production	596	534	451
Imports	1	1	1
Total Supply	908	822	691
Feed	530	499	450
Food, Seed	78	80	80
Total Domestic	608	579	530
Exports	13	4	10
Total Use	621	583	540
Ending Stocks	287	239	151
Avg. U.S. Farm Price	$1.20	$1.36	$1.55-$1.80

Beginning Stocks - Down 17 percent from last year and the lowest since 1977-78.

Production - Down 16 percent and the smallest in many years. Acreage this year is the lowest since the late 1800's.

Imports - Of no consequence.

Total Supply - Down about 16 percent.

Use - Feed use is expected to decline because of higher prices. Exports at 10 million bushels may be optimistic in light of short supplies. Food and seed use are not expected to change. Total use may decline 45-50 million bushels.

Ending Stocks - Down 35-40 percent which is the lowest in recent history.

Government Program - Loan rate is $1.16, the release price is $1.45 and the call price is $1.68.

Price Prospects - North Dakota oats prices are expected to average in the $1.50-$1.75 range for the year. Top quality milling oats may exceed the top end of the range. The key factor in the oats market this year is the short supply situation and the general strength in the entire feed grain complex.

Barley
(million bushels)

	1978-79	1979-80	Projected 1980-81
Beginning Stocks	172	229	191
Production	449	378	352
Imports	10	12	10
Total Supply	631	619	553
Feed	206	203	175
Food, Seed, etc.	170	170	172
Total Domestic	376	373	347
Exports	26	55	75
Total Use	402	428	422
Ending Stocks	229	191	131
Avg. U.S. Farm Price	$1.92	$2.31	$2.50-$2.80

Beginning Stocks - A moderate decline from last year.

Production - Down slightly from last year, but not as much as earlier expected. Quality of production in North Dakota, South Dakota, and Minnesota, quite poor because of sprouting and weathering.

Imports - Mostly some specialty type of malting barley.

Total Supply - Down 11 percent.

Feed Use - Expect less to be fed because of higher prices.

Food, Seed, etc. - Expected to remain about the same as last year.

Exports - Up 20 million bushels from last year. Most of this is due to lower quality Canadian crop, a smaller Australian crop and some U.S. barley going to Canada for feed.

Ending Stocks - Down about 1/3 and the lowest since the mid-1970's.

Government Program - Loan rate is $1.83, release price is $2.29 and the call price is $2.65.

Price Prospects - Barley prices should remain favorable. Malting barley supplies in the upper midwest are expected to be tight this year. Look for a North Dakota season average price for malting barley to be in the $3.00-$3.50 range. Feed barley prices should remain strong and average in the $2.50-$3.00 range.

Oilseeds (Visual 8)

World Situation - World production will be down sharply this year. A large part of the decline is in U.S. sunflower and soybean production. World demand will continue strong.

Sunflowers
(Thousand metric tons)

	1979-80	Projected 1980-81
Beginning Stocks	130	1,100
Production	3,500	1,850
Total Supply	3,630	2,950
Domestic Crush	550	750
Non-Oil Use	170	170
Exports	1,800	1,770
Seed	10	10
Total Use	2,530	2,700
Ending Stock	1,100	250

Beginning Stocks - Up sharply from last year. This is the first year that there has been a year-round supply of sufficient size to consider year-around marketing.

Production - Down sharply because of reduced acres and reduced yield. The 1,850 estimate is a McDonald estimate. Change it according to the October crop report.

Total Supply - Down sharply from last year, but still adequate.

Domestic Crush - Up about 200,000 tons. This increase is based on increased crushing capacity now available.

Non-Oil Use - will remain about stable.

Seed Use - Up slightly from 1980 level.

Exports - Exports should remain near last year's level or just slightly below. Competition from rapeseed in western Europe may cut exports to that area, but increased exports to Mexico, South America, and perhaps to Asia should help offset some of that loss.

Government Program - None yet, but probably will have a loan program for 1980 crop.

Price Prospects - After harvest lows, look for price recovery in light of tightening supplies and continued strong demand. Look for the North Dakota season average price to be in the $11-$12 range. If the U.S. oilseed crop turns out to be less than expected, this could be a very conservative estimate. Selling at depressed harvest prices is not recommended unless money is needed.

(Visual 8)

Soybeans (million bushels)	1979-80	Projected 1980-81
Beginning Stocks	174	370
Production	2,268	1,831
Total Supply	2,442	2,201
Domestic Crush	1,120	1,050
Exports	870	835
Seed, Feed, etc.	97	96
Total Use	2,087	1,981
Ending Stocks	370	220
Avg. U.S. Farm Price	$6.25	$8.20

Beginning Stocks - Double last year's level.

Production - Down 20% which more than offsets the increased beginning stocks.

Total supply - Down about 10% and adequate.

Domestic Crush - Will be reduced this year because of less demand from livestock and higher prices.

Exports - Will be off slightly from last year's level, but export demand should still be considered strong, accounting for about one-half the crop.

Price Prospects - Upper Midwest terminal market prices are likely to average about $8.00 from harvest through the spring. Beyond early spring, South American crop prospects become important factors to watch. Following price declines at harvest, look for

a fairly good seasonal recovery. Again, in short crop years, prices tend to peak early, thus, the highest prices may be this fall.

Flax

Flax supplies this year are expected to be about 12.7 million bushels. A crop of 7.7 million and beginning stocks of 5 million bushels. This is compared to last year's supply of 18 million bushels.

Flaxseed crushings in the usual range of 11-13 million bushels would virtually exhaust the current supply. Thus, crushings are expected to be at the lower end of the range (about 11 million bushels). Crushings greater than that would require imports and Canadian supplies are also down so imports may not be as much of a factor as they have been in other short-supply situations.

Look for the North Dakota season average price to fall in the $7-$8 range. Prices should increase throughout the winter by enough to cover storage costs.

The basic points we have been talking about are supply and demand which determine prices.

Key Question 14. How does the commodity outlook data tend to determine or help establish price? (Visual 9)

No other aspect of marketing is of more general interest and of more practical concern than the function of market pricing. Prices ration available supplies among consumers, reward producers for their productive efforts, allocate resources among their alternative uses, motivate change, and in general play a large role in the coordination of production-marketing systems. A basic understanding of the pricing system for agricultural products is essential to profitable marketing

decisions. Market price is the result of the interaction of supply and demand.

A. Demand - the amount of a product the consumers (or buyers) are willing to purchase.

1. The law of demand states that when the price of a product is increased (with no change in factors other than price), less product will be taken.

a. Each additional unit consumed by an individual consumer is worth less than the previous unit.
b. Lower prices bring new consumers into the market because of differences among individuals, differences in their tastes and preferences, differences in their incomes, and differences in prices among competing substitute products.

B. Supply - the amount of a product producers (or sellers) are willing to produce (or sell).

1. The law of supply states that when the price of a product is lowered (assuming no change in factors other than price), less of a product will be supplied. Or if a larger quantity of a product is needed, it can be obtained only by paying a higher price.

a. As production from a given fixed input is increased, beyond some point the cost of producing each additional unit will also increase.
b. Different producers have different costs of production. Fewer producers can afford to produce at lower prices than at higher prices.

C. Market - the coming together of the forces of supply and demand. A market <u>place</u> is simply a place where buyers (demanders) and sellers (suppliers) meet. A market <u>area</u> is simply the area over which production and consumption affect supply and demand at a specific market place.

1. Market time is the time at which a product is offered for sale (supplied) and buyers are willing to buy (demand).
2. A potential market is a demand without a supply or vice versa.
3. An active market is one in which supply and demand are such that transactions take place.
4. All concepts of a market meet the criteria of a coming together of supply and demand.

D. Market price - the price at which supply and demand come together, that is, where supply equals demand. (Visual 10)

1. Demand schedules represent maximum quantities that will be purchased at given prices (maximum prices that will be paid for given quantities).
2. Supply schedules represent maximum quantities that will be supplied at given prices (minimum prices that will be accepted for given quantities).
3. Buyers pay no more than they have to for a given quantity. And sellers will take no less than they can get for a given quantity.

E. Shifts in the demand refer to changes in quantity demanded caused by any factor other than price.

1. Factors which may cause shifts in demand are such things as changes in income, population, tastes and preferences, prices of competing products, and so forth.
2. Shifts in demand may cause larger or smaller quantities to be demanded at a given price or may cause higher or lower prices to be paid at a given quantity of output.

F. Shifts in supply are caused by overall changes in the costs of production or changes in the prices of competing products.

1. Changes in supply may be the result of either changes in quantity supplied in response to price or overall shifts in the supply or both.

2. Most agricultural products are produced by biological processes which take time. Thus, production decisions must be made on the basis of expected prices rather than actual known prices. The price-quantity supplied relationship is, therefore, a relationship between price expectations and quantity supplied rather than actual prices and quantity supplied.

G. Demand elasticity is a quantitative relationship between changes in quantity demanded and changes in either price or any of the factors affecting demand.

1. Price elasticity is the ratio of percentage change in quantity demanded divided by percentage change in price. A price elasticity less than 1 implies that the percentage change in price in a given direction, either up or down, is greater than the percentage change in quantity demanded which moves in an opposite direction from price. Thus, with an elasticity less than 1, price increases will cause increases in total revenue. Conversely, with an elasticity greater than 1, price increases cause decreases in total revenue and price decreases cause increases in total revenue.

2. Demand tends to be less elastic in the short run and more elastic in the long run.

3. Elasticity with respect to other factors affecting demand refers to the ratio of the percentage change in quantity demanded divided by the percentage change in these factors. For example, income elasticity refers to the ratio of percentage change in consumer incomes. However, since increases in income are typically associated with increases in quantity demanded, the elasticity estimates generally are positive. For example, an income elasticity of 1 implies that a 1 percent change in income causes a 1 percent change in quantity demanded in the same direction.

H. Price elasticity of supply refers to the ratio of percentage change in quantity supplied divided by percentage change in price.
   1. Supply of agricultural products tends to be inelastic in the short run because production cannot be increased much in a short time period even if prices rise drastically.
   2. Supply tends to be more elastic in the long run after producers have time to adjust their total operations to different levels of prices.

I. Market prices are unique with respect to form, place and time.
   1. When two markets relate to different products or different forms of the same product, the two markets are different markets.
   2. When two markets are at different locations, they are also different markets even if identical products are sold at each market location.

3. Markets observed at different times are also different markets even if the products sold and the market location are identical.
4. Markets at different levels in the marketing system are also different markets and must be analyzed separately.
5. It is the supply of a given product at a given place at a given time compared to the demand for the same product at the same place and the same time that determines the market price of the product.

Key Question 15. How should we evaluate the available marketing alternatives?

Individual producer marketing decisions are based on the selection among marketing alternatives. These alternatives are associated with markets which differ with respect to time, location, and product form. If producers are to make informed marketing decisions, they must understand the basic concepts underlying the various market alternatives.

A. Marketing with respect to time.

1. Alternative times of pricing.

a. Price at time of delivery.

b. Forward price or price prior to delivery.

1) Forward price with futures markets.
2) Forward price with cash contracts.

2. Alternative times of delivery.

a. Current delivery.

1) Delivery at harvest for crops, for example.
2) Sell livestock as feeders, for example.

b. Delayed delivery.

1) Store grain, for example.
2) Feed livestock or feed to heavier weights, for example.

3. What causes prices to change over time?

a. Shifts in demand.

Part IV. Summary.

A. Historically, carryover supplies of commodities do play a significant role upon projected price level.

B. Supply of certain animal species does affect the long term market price trends.

C. Hog and beef cattle high and low supply cycles directly affect an opposite price pattern.

D. Producers should be aware of the current status of each livestock enterprise as to the current relationship to the cycle status, short and long term trend.

E. Establish a system of obtaining and using current market information available to the public and/or from private sources.

F. Interpret carryover stock figures and incorporate new crop projected figures for commodity outlook marketing situation.

G. Analyze the current commodity market price outlook situation on the basis of fundamental and technical kind of impact factors.

Part V. At-The-Farm Activity

Recommend following the three pronged approach cited below for at-the-farm activity.

1. Review with the client the kind of market information he/she currently receives, subscribes for and uses.

2. Discuss the primary needs for more (if appropriate) marketing information, the sources of current supply - price data on specific commodities (those pertaining to the individual farmer).

3. Suggest the Ag. Marketing Service(s) to which the client may wish to subscribe for the latest marketing information.

If time permits, recommend how the market information may be made use of to the greatest advantage by the farmer.

Part VI. Learning Resources.

Chalk board.
Overhead projector.
Transparencies: Visuals 1 through 10.

Part VII. References. (Obtain copies from sources cited).

"Cattle Economics Report - Guidelines" from National Cattlemen's Association, P.O. Box 569, Denver, CO 80201.

Circular EC-678, "Grain and Livestock Market Information", Bulletin Room - College Station, NDSU, Fargo, ND 58105.

"Farmers Newsletter", Crop Reporting Board, Room 0005-S, USDA, Washington, D.C. 20250.

"Progress Report - Newsletter", North Dakota State Wheat Commission, 1305 East Central Avenue, Bismarck, ND 58505.

"Supply and Outlook Data", by Commodity - Source, Top Farmers of America, 225 East Michigan, Milwaukee, WI 53202.

Part VIII. Appendices.

A. Visuals 1 through 10.

B. Handouts 1 through 6.

C. Marketing Charts - 1976-1981 - "Ag Marketing Service"
For commodities: Corn - Wheat, Soybeans - Soybean Meal
Live Hogs - Live Cattle.

FARMERS MARKETING ALTERNATIVES IN THE CASH GRAIN MARKET

Part I. Student Objectives

A. For students to become aware of the various alternatives for marketing grain.
B. To become aware of the advantages and disadvantages of each alternative.
C. To become familiar with the government loan program.

Part II. Transition of Units

The previous lessons have stressed many of the economic factors that affect the agricultural production and marketing. Marketing plans should take into consideration local, national, and world conditions. As a producer becomes more aware of the wide range of factors that can affect the demand for his products, there may be a greater need for understanding the marketing alternatives. The grain producer doesn't always have to take the price offered when he delivers grain at the local elevator. The cash grain market offers him several options or ways and many different times to market his grain.

(Visual 1.) The key step to overcoming the problem of "taking" the price offered is to break marketing into two separate activities: (1) Pricing and (2) Delivery. A farmer can deliver cash grain only once, but he can price it any time from about a year before harvest until any time after harvest that he decides to sell. He can't be a price maker, but he certainly doesn't have to wait until delivery day to price grain.

Part III. The Lesson

Attention Focuser

Have each student write down the alternatives he/she has for marketing the crops they produce. Make a composite list on the chalk board by getting responses from the class members. After identifying the alternatives, make a study of the advantages and disadvantages of each.

Suggested Teaching Strategy

After identifying the marketing alternatives the farmer has available, it is suggested that a discussion of the advantages and disadvantages of each be held. This lesson may not cover all the alternatives the farmers will suggest. Example: Feeding grains to livestock, is an alternative not covered in this lesson material, but may be suggested and you may want to consider it along with the others.

The use of the overhead projector visuals can be used to focus attention on each portion of the lesson. The worksheets can be duplicated and used in class to work out situation problems and copies sent home for future individual calculations.

The Loan and Farmer Owned Reserve Program is subject to change annually it is suggested the teaching material be updated so current values

are being used in examples as well as when working with individual farmers. Other values used in examples may become outdated and need to be changed to make them current. The principles illustrated should stay the same even though the values change.

Key Question 1. How does selling grain at harvest fit into market plans?

For over a hundred years after this country was settled, agriculture was for subsistance only. Nearly all products were consumed on the farm or the surplus sold to nearby towns.

This type of agriculture changed drastically with the 1820-1850 western movement. With more and more land brought under the plan, these farmers found they produced much more wheat than they could sell at a reasonable price.

Communications were poor, transportation and storage were practically non-existent. The wheat producer hauled his wheat to town, only to find other producers doing the same thing. The result was ruinously low prices at harvest time. Wheat producers began to look at alternatives for marketing their crop. A. There are, however, many <u>advantages</u> to selling cash wheat at harvest time: (Visual 2)

1. No need for extensive storage facilities.
2. Don't have to worry about maintaining quality.
3. By selling grain at harvest have the cash available.
4. Moisture isn't as much of a worry going directly to elevator with it, rather than storing it. The 3 to 5 percent shrink is eliminated.

B. Disadvantages (Visual 3)

1. Grain prices are historically low at harvest time. In years of short supply or concern about short harvest time supplies, prices are often good at harvest time.
2. Usually have a congestion at the elevator and valuable time

is lost waiting in line to unload.

3. Sometimes less flexibility in adjusting income for tax.

4. Producer has lost control of grain and any potential for using it.

Key Question 2. Are there times when a producer should store grain at harvest for later sale?

Storing for later sales naturally overcomes some of the disadvantages of selling at harvest time and is generally used by many grain producers.

A. Some advantages are: (Visual 4)

1. Often yields a higher farm price later in the crop year. In 22 of last 30 years, November prices for Hard Red Spring Wheat have been higher than harvest price.

2. If stored on farm, may have a savings of time and transportation at harvest time.

   a. Producers can also deal with other buyers instead of just the elevator if grain is stored at home.

B. Disadvantages (Visual 5)

1. The need for costly storage facilities if stored on the farm.

2. When stored on farm, the producer assumes the risk of shrink and maintenance of quality.

3. Additional interest charge should be assessed against stored grain.

4. May have bad weather where can't get to stored grains to move it.

5. Extra handling because of on farm storage.

Storage Costs:

1. Costs of storage can run 3-6 cents or more per bushel per year for the life of the facility.

   For Example: If a 10,000 bushel steel bin costs approximately $6500 or about 65¢ per bushel--using straight line depreciation over a 20 year life

with an 80% average annual occupancy or 8000 bushels gives an annual depreciation cost of .0406 cents per bushel per year.

The equation to determine annual straight line depreciation cost is: (Visual 6)

$$\frac{\text{Total Cost}}{\text{Life Expectancy}} \div \text{Estimated average annual Bushels stored} = \text{Annual Depreciation cost per bushel}$$

This example is:

$$\frac{\$6500}{20} \div 8000 \text{ bushels} = .0406¢/\text{Bu./Year}$$

2. There is also an interest cost on the invested capital. Currently if you obtain a facility loan from ASCS you will pay 13.5 per cent. If you use your own money, you still have to charge what you could have earned if the money was invested in something else such as certificates of deposits.

   Let's assume you purchase the bin with your own money and you could be earning 10 percent on your money, in other words, your opportunity cost is 10 percent. The average annual interest cost per bushel per year is .0406 cents.

   The equation is as follows: (Visual 7)

$$\frac{\frac{\text{Total Cost}}{2} \times \text{interest rate}}{\text{Estimated average annual bushels stored}} = \text{Annual interest cost per bushel on investment}$$

   This example is:

$$\frac{\frac{6500}{2} \times .10}{8000 \text{ Bushels}} + .0406¢/\text{bu./year}$$

3. Insurance on the bin is quite small but it still costs about one-fourth cent per bushel per year.

4. Now we have an estimate of the total annual fixed costs of purchasing a new 10,000 bushel steel grain bin, exclusive of any handling or aeration equipment of .0836¢ per bushel per year. (Visual 8 and 8a)

Factors To Consider When Storing Grain

1. Loss of grade and quality can be very costly. Heat and insect damage are two common ways that producers tend to have storage problems. It only takes 0.2 percent heat damage to downgrade No. 2HRS wheat to No. 3. A musty odor which is indicative of excess moisture will downgrade wheat or durum or any other grain to sample grade with heavy discounts often taken. Some years a lot of sunflowers are plagued with heat in storage. Some of the losses have been substantial. During years of high rainfall during harvest there can be loss of grade and quality in the field, and if grain isn't well dried there could be additional losses of grade and quality in the bin.
2. Other factors that may cause loss of grade are:
   a. Discounts for foreign material (FM). The common discount for FM in wheat is 1/2¢ per bushel for each 1/2 percent FM over 1/2 percent or fraction thereof. FM is all matter other than wheat which remains in the wheat sample after the proper determination of dockage and shrunken and broken kernels. Any accidental or intentional addition of any other substance to wheat could lower the grade.

      A common discount for shrunken and broken kernels in wheat is 3¢ per bushel to 5 percent. Shrunken and broken kernels shall be all kernels and pieces of kernels of wheat and other matter that will pass readily through a .065 X 3/8 oblong hole sieve.

   b. Insects, loss of test weight and contrasting classes are other factors that can lower the grade while in storage.
3. Storing grain can cause some storage shrink.
   a. Research is sketchy in this area. Many believe storage shrink runs 1-2 percent for wheat. The University of Minnesota has estimated

shrink for wheat at .5 percent plus .05 percent per month. Thus, shrink for a year would total 1.1 percent. It seems that a 1 percent shrink is a reasonable estimate and 1/2 percent is probably conservative. This shrink is the loss that comes about from handling. It does not include shrink due to moisture loss. Any moisture loss below that level for safe storage (usually considered 13.5 percent for wheat) is an additional storage cost. For instance, if you get overly ambitious and dry wheat to 11.5 percent you are losing 2 percent of your wheat by weight. If you dry 5,000 bushels, you are losing 100 bushels. At $4 per bushel that's a $400 loss.

4. By storing grain, the producer has to absorb the interest costs associated with storing grain. This advantage is readily visible, if producers have to borrow money or if they take the cash and invest it in interest bearing securities. The following table illustrates the interest costs of holding grain. (Visual 9)

Interest Costs of Storing Grain

Grain Value/Bushel	Monthly Costs			
	7%	8%	9%	10%
	Cents per Bushel			
1.00	0.58	0.67	0.75	0.83
2.00	1.17	1.33	1.50	1.67
3.00	1.75	2.00	2.25	2.50
4.00	2.33	2.67	3.00	3.33
5.00	2.92	3.33	3.75	4.17

From the above table, we can see that interest gained or lost over a 6 month storage period at 9 percent interest for $4.00 wheat is 18 cents.

5. Insurance costs of farm stored grain. In North Dakota, most farmers use a blanket policy for stored grain that costs about $1 per $1,000 valuation which is about one-fourth cent per bushel. It's a small cost, but it's still a cost.

6. Every time a producer puts grain in storage he must consider the cost of storing against the potential return. Sometimes it is better to sell the grain and invest the money rather than store the grain and wait for a price rise. If you know it will cost you 48 cents to store a bushel of grain a year, but you expect price to increase by only 20 cents, the market is signaling you to sell now rather than later.

When making the evaluation of whether to store or not, the only considerations are the out-of-pocket costs, opportunity costs and shrink, because those are the only costs you save by not storing. The fixed costs go on regardless of whether you use the bin or not.

Just what are these out-of-pocket costs? (Visual 10)

Variable Costs

	Cents Per Year Per Bushel
Bin repairs 1/2 of annual depreciation	.0020
Insurance on grain	.0025
Pest control and fumigation	.0150
Labor	.0020
Elevator operating costs	.0020
Total Variable Costs	.0225

Most of these costs are of a one time nature so even though they are annual costs, the cost for six months storage would be virtually the same. Thus, we arrive at an estimate of out-of-pocket costs of approximately 2 1/4 cents per bushel, excluding shrink and opportunity costs.

a. Should sell today or store six months and sell? Let's look at an example.

Cash wheat today $4.00

Add:

Opportunity costs @ 10% + .20

(from visual 3.33X6)

Variable costs + .02

(approximately 2¢)

Shrink

(approximately 1% of today's cash value)

Break even price in six months $4.26

At this point you have to compare the breakeven price against your expectations for six months into the future. One place to get a rough estimate of whether it will pay to hold for six months is to look at the carrying charge or spread between the nearby futures contract and the futures contract that matures six months from now. This will tell you about what the market is offering you today to hold wheat six months in case you want to hedge.

A rule of thumb that some people use to estimate on farm storage cost including shrink and interest cost is 1 1/2 percent of the market price per month - i.e. $4.00 X 1 1/2% = .06¢/month.

By adding fixed and variable costs together we now have an estimated total annual storage cost of 10.6 cents per bushel, excluding shrink and opportunity cost. (Visual 11)

Cost of Storage

Fixed Costs	
Depreciation	.0406
Interest	.0406
Insurance	.0024
Total fixed costs	.0836
Variable Costs	
Bin repairs @ 1/20 of depreciation	.0020
Insurance on grain	.0025
Pest control and fumigation	.0150
Labor	.0020
Elevator operating costs	.0020
Total variable costs	.0225
TOTAL COSTS	.1061

Key Question 3. Can one use contracting cash grain before harvest as a means of marketing?

Forward cash contracts can be used by producers to lock in a specific price before harvest. A producer normally will enter into a contract with a grain elevator or another buyer only if the contract price is at what he considers to be the highest price available to him. The contract makes economic sense only if the producer expects prices to fall between the time the contract is negotiated and harvest, or if the producer wants to assure a certain profit.

A. Some of the advantages are: (Visual 12)

1. The price is established ahead of harvest. If the contract price offers a profit opportunity and the producer is not willing to take a risk, a contract may be a good market alternative.

For young farmers or those with little equity this may be particularly attractive.

2. A producer with a cash contract assures himself of an outlet for his grain. With the transportation problems of recent years, some country elevators have been reluctant to purchase grain at harvest unless it has been contracted.
3. Contract usually made with a local person, can be made in any multiple as compared with futures contract at 5000 bushels.
4. An advantage of cash contracts, as compared to futures, is evident during periods of wildly fluctuating prices which results in margin calls on supposedly good futures trades.
5. A cash contract is for a specific price, where a future price usually indicates a general local cash price based on historical data.

B. Disadvantages

1. Reduces a producer's flexibility. A cash contract usually requires delivery. If one suffers a crop loss he would be responsible for seeing that the contract is fulfilled either by buying grain or making a cash settlement if the latter is possible by the terms of the contract. Producers may gain some flexibility from a cash contract by contracting a portion of an intended crop at different times. For example, a producer could contract 1/3 of an anticipated crop before planting, 1/3 when the crop was growing well, and 1/3 just before harvest.
2. Reduces the ability to adjust income for tax purposes.
3. Must be careful of the integrity of people one is making contract with. The contract used to record and verify an advance sale should be a written instrument known to be legal in the state in which the sale is made. The contract should specity: a) Date contract made,

b) Selling price, c) Number of bushels, d) The type of grain, e) Quality the contract price calls for, f) Place and time of delivery, g) Any penalties for over or under delivery or early or late delivery. In addition a contract for advance sale of grain should specify grade discounts and/or premiums, and also whether any payment is possible in advance of delivery, if payment is to be made in full on completion of delivery, or if payment is to be deferred. Once a contract has been agreed upon, the producer should inform the buyer if he cannot fulfill all the conditions of the contract. By doing this as soon as possible, the cost of altering the contract should be less. The buyer will often cooperate with the producer, but producers must understand that buyers have no obligation to make any changes in the original contract. Producers may gain some flexibility from a cash contract by contracting.

Key Question 4. Why may a producer contract cash grain for deferred payment?

There are several reasons why producers may decide to delay selling at harvest. Rapidly fluctuating prices create confusion, therefore, there may be a tendency to delay actual sale until markets are more calm.

A. Some advantages are: (Visual 14)

1. Producer has the benefit of deferring income for income tax purposes.
2. An elevator manager may offer an additional sum per bushel for each month the producer stores grain in his own bin. If the buyer has no storage he may be willing to pay 1-2 cents a bushel for each month the producer stores the grain, and until the elevator can take delivery.

B. Disadvantages

1. The producer has the grain but can't use the money. This results in a loss of interest income from value of grain.

2. The producer is not protected from value of grain fraudulent activities of the elevator that might cause the producers to lose money on deferred contract. If a producer doesn't have confidence in the elevator, he should take his business to one in which he does have confidence.

Key Question 5. When does the Government Price Support Program fit into a marketing plan?

During periods of low grain prices the Government Price Support Program should be considered by many producers.

A. Some of the advantages of the Government Price Support Program are:(Visual 15)

1. Guarantees a minimum price for your grain in periods of low cash prices if you are eligible. The current national average loan rate for wheat, for example, is $3.00 per bushel.
2. Allows the producer to borrow money against the stored grain while waiting for prices to increase. This allows the producer to store the wheat, take out a loan through the county ASCS office for $3.20 per bushel and use the wheat for collateral. Upon maturity of loan, you must pay back the loan or default, which means that the Commodity Credit Corporation (CCC) automatically takes title of the wheat. (In these examples we are using the national average loan rate to simplify the discussion. You may want to use your own county loan rate in this discussion if you prefer.)
3. Low interest rates on CCC loans. Interest rates on CCC loans are almost always cheaper than commercial loans. The rate on farm loans is currently 14 1/2 percent. This will change again as interest rates increase. So - it's usually a cheap source of financing which

will allow the farmer to pay off a higher cost loan without losing title to the grain.

B. Disadvantages: (Visual 16)

1. Farmers must guarantee quantity and quality of the grain under loan.
2. Certain amounts of paper work and cooperation with the county ASCS office are necessary. A small fee is charged to take out a loan.

There are really very few disadvantages to using the price support program in periods when prices are below the loan rate. When prices are above loan rate the program is largely inoperative except in conjunction with the Farmer Owned Reserve (FOR) program or if the farmer simply wants to use the price support program as a source of borrowed funds.

(Visual 17) To evaluate the merits of the price support program, you should consider the cost of storing and using the price support loan against the potential return. To put it another way, what is the grain worth today?, what is it worth under the loan? and what will it cost us to use the price support program? Keep in mind that the key factors to consider are the variable costs, opportunity costs and the interest on the commodity loan. Calculate storage costs as we did in question 2. The interest rates and loan rate will change; at this writing the interest rate on loan is 11 1/2 percent and loan rate on wheat is $3.20.

If the cash wheat price is below the loan rate, and the cash prices aren't likely to increase to above the loan level, the answer is obvious; the loan pays.

If cash price is close to, or above, the loan rate, however,

the answe- may not be so obvious. For example, should you store $4.00 cash wheat and take out a loan at $3.00 for six months?

Here's one way to look at the problem: Assume the assumptions listed in parenthesis in the following example problem.

(Visual 18) Store and Loan

Cash price today		$4.00
Add:		
Interest on loan (3.20 x 11 1/2% x 6 mo.)=	+	.184
Variable costs	+	.02
Shrink (1% x 4.00)		.04
Break even price in 6 months		$4.244

Thus, if cash price increases by 24.4¢ you just hold your own. Now what if you sold the wheat today at $4.00 and invested the returns at 10% for six months?

(Visual 19) Sell Cash Wheat

		$4.00
Add:		
Interest earned (4.00 x 10% x 6 months)	+	.20
Net Returns		$4.20

In this case you have earned 20¢ interest income, while in the example above, you invested an additional 24.4¢. Will price increase 20¢ in six months? If it doesn't, you will be better off by selling today. You will be better off than if you took out a loan and you don't have to worry about quality deterioration.

The commodity loan is one of the cheapest sources of funds

available but you still need to push the pencil. It's also helpful if you can make a good estimate of price trend during the time period under consideration.

Key Question 6. How can a farmer decide whether to use the Loan and Farmer Owned Reserve (FOR)?

It's difficult to make a flat statement, but depends on:

1. Farmers' price objective. If price is below the release price and he doesn't plan to sell below that price, then he might as well earn a storage income while holding.
2. Farmers' attitude toward storage. Storage is part of many farmers management scheme. At 26 1/2 ¢ per bushel per year, most farmers can make money storing grain, but when considering the opportunity cost it may not be as profitable as at first glance.

A. Some advantages are: (Visual 20)

1. Gives farmers the opportunity to work together to increase price by holding grain off the market.
2. Government pays 26 1/2¢ per year storage as long as wheat is not in release status and below the national farm price of $4.48.
3. Government waives the interest rate on the loan after the first year.
4. Borrow 3.20 per bushel and use the loan as collateral as in Key Question 5.

B. Disadvantages: (Visual 21)

1. Can't sell grain until the national average price for wheat reaches $4.48. Durum could be $8.00 but if the national average farm price is $4.47 or less, durum in the reserve couldn't be sold.
2. Must pay back unused storage payments when wheat is redeemed.

3. Loan is called when the national average cash wheat price reaches 175 percent of the loan rate or $5.60 per bushel.

(Visual 22) Evaluating Loan and Farmer Owned Reserve (FOR). (Handout 1)

Options 1 and 2 (Worksheet 2)

Assume - Cash price stays at loan for three years.

- Interest rate or opportunity cost @ 10%.
- Variable cost @ 2 1/4¢/bu.
- Storage @ 26 1/2¢/yr.
- Shrink @ 1% of value.

Option 1 (Visual 23) (Worksheet 1)

Loan		$3.25
Add: Storage earned	+	.795
Interest earned	+	.975
Less: Variable cost	-	.0675
Shrink	-	.03 1 1/2
Net return after 3 years		$4.92

Option 2 (Visual 24)

Sell cash wheat	$3.25
Add: Interest earned	.975
Net return after 3 years	$4.225

The net result is a 69 1/2¢ advantage to using the FOR and loan.

Evaluating Loan and Farmer Owned Reserve.

Options 3 and 4 (Visual 25) (Worksheet 3)

Assume - Cash @ $4.20, loan @ $3.25

- Release price ($4.48) reached in six months
- Cash price in six months $4.55

- Interest earned or opportunity cost @ 10%
- Interest paid on loan @ 11 1/2%
- Storage @ 26 1/2% per year
- Variable cost @ 2¢/bu.
- Shrink @ 2¢/bu.

Option 3 (Visual 26)

Loan		$3.25
Add:	Storage earned 6 months	+ .1325
	Interest earned	+ .1625
Less:	Interest on loan (3.25 x 11 1/2 x 1/2)	- .1825
	Opportunity cost on $1.00	- .05
	Variable cost	- .02
	Shrink	- .02
Net Gain or Loss		+ .02
Add:	Sell wheat	+ $4.55
	Net returns	$4.57

Option 4 (Visual 27)

Sell cash wheat today		$4.20
Add:	Interest earned	+ .21
Net returns		$4.41

The net result in this case is 16¢ in favor of using the FOR.

Part IV. Summary.

A. There is no one marketing alternative best for all farmers.

B. There is no one marketing alternative that is best for a farmer all years.

C. Each producer must evaluate his cash flow situation and take this into consideration when he determines marketing plans. Generally

a highly financial farmer must market his grain from harvest through December. He must then consider those alternatives that will meet his cash flow needs and get him a fair price for his product.

D. The availability and/or comparative cost of purchasing storage facilities is a major consideration when evaluating several of the marketing alternatives available to the producer.

Part V. At-The-Farm Activity.

Review past marketing alternatives used by the farmer. Discuss how effective the farmer feels he has been with his marketing. Review the marketing index for each cash crop found in Table 8 line 46 of past year's analysis. Discuss the cash flow requirements to determine when the crops need to be sold. Assist the farmer in evaluating the amount and quality of grain storage on the

Part VI. Learning Resources.

Chalk board
Overhead projector
Transparencies: Visuals 1 through 27
Handouts: Worksheets 1, 2 and 3, Interest cost chart

Part VII References.

"Teaching Guide for Marketing Alternatives in the Cash Grain Market" by Hugh J. McDonald.

"Market Alternative for Producers of Wheat" by National Association of Wheat Growers.

"Forward Pricing with Cash Contracts" Circular EC-641 by Hugh J. McDonald.

Part VIII Appendices

A. Visuals 1 through 27

B. Handout 1 - "Interest Costs of Storing Grain" and "Interest Cost for Holding a Grain Inventory" by Hugh J. McDonald.

C. Worksheet 1, 2 and 3.

FARMERS MARKETING ALTERNATIVES USING THE FUTURES MARKET ---
UNDERSTANDING THE ORGANIZATION AND FUNCTION OF THE COMMODITY EXCHANGE

Part I. Student Objectives.

A. To learn which commodity exchanges a farmer may use when trading future contracts.

B. To learn which commodities and contract size for each of the commodity exchanges.

C. To develop an understanding of the costs of trading on the futures market --- brokerage fee, margin and margin call.

Part II. Transition of Units.

The previous lesson looked at some of the marketing alternatives using the cash grain markets. This lesson is intended to develop some basic understandings of the commodity exchanges and is intended to provide some background information needed or at least helpful to a farmer, who may choose to trade in the futures market. Trading in the futures marekt may not have been practiced by a very large number of the farmer students, and perhaps their knowledge of this area is very limited.

Part III. The Lesson.

Attention Focuser.

Introduce the use of the "Futgame" on Agnet. Explain that each student may get involved in trading up to six commodities on the futures market. Explain that each student will have $10,000 of fictitious money to spend speculating on the futures market. Emphasize that a farmer does not normally use the futures market for speculating but rather to reduce risk in a marketing plan. The "Futgame" can be used effectively for teaching the use of futures markets for hedging since many of the same understandings are needed for heaging as for speculating. Have trade slips duplicated, current prices posted, and have each student turn in a trade slip for each commodity they choose to trade. After this class session is completed the individual transactions are inputed into the computer and saved. Trading is continued at future class sessions and can be run for any period of time desired.

A film may be used which shows the organization and function of commodity markets. One such film is "The Vital Force" available from Modern Talking Picture Service or Venard Films.

Suggested Teaching Strategy.

Depending on how well you know your students, it may be a good idea to survey the class to determine their understanding of commodity exchanges and trading experience in the futures market. Assuming

several in the class are unfamiliar with this area, spend the time needed to give them a good understanding of how a commodity exchange functions. If a film is used, preview it and use it during the lesson where it best fits; this may not be at the beginning of the class.

The use of the overhead projector visuals can be used to focus attention on each portion of the lesson.

Key Question 1. What is a commodity exchange? (Visual 1)

Commodity Exchanges are organized markets, like stock markets. The exchanges are "public" in the sense that anyone can trade who makes the necessary arrangements with member brokerage firms. Each exchange has its own governing board, which sees to it that business is carried on fairly and efficiently under the rules. The exchanges do not buy or sell or set prices. All prices are established through open trading.

Key Question 2. What is a commodity futures contract?

A commodity futures contract is a contract to buy or sell a set quantity of a particular commodity at a designated time in the future. Contracts do not involve actual commodity or require any sample pans.

A. There are six elements of a contract. (Visual 2)

1. Commodity - live cattle.
2. Price - $69.00/cwt.
3. Quantity - 40,000 lbs.
4. Quality - USDA choice.
5. Place - par delivery point - Sioux City.
6. Time - month - mature on the 20th.

Key Question 3. What are the five agricultural commodity exchanges important to North Dakota? What commodities are traded at each, and the contract size?

There are 13 organized markets in the United States of which 5 are agriculturally important. Each trade the following commodities with contract specifications listed.

A. Chicago Board of Trade. (Visual 3)

1. Corn - 5000 bu. No. 2 yellow
2. Oats - 5000 bu. No. 2 white
3. Soybeans 5000 bu.
4. Wheat 5000 bu.

B. Chicago Mercantile Exchange. (Visual 4)

1. Hogs - 30,000 lb. Number 1,2,3,4, barrows or gilts 200-230 lb.
2. Live cattle - 40,000 lb. US choice 1050 to 1200 lb. steers.
3. Feeders 42,000 lb. choice and good with 500 lb. average.

C. Minneapolis Grain Exchange. (Visual 5)

1. Hard Red Spring Wheat 5000 bu. #1 NS
2. Sunflowers 100,000 lb. #1.

D. Kansas City Board of Trade. (Visual 6)

1. Hard Red Winter Wheat 5000 bu.

E. Mid America Exchange. (Visual 7)

1. Corn - 1000 bu.
2. Oats - 1000 bu.
3. Hogs - 15000 lbs.
4. Soybeans - 1000 bu.
5. Wheat - 1000 bu.

The Mid American Exchange trades in mini-contracts. This provides an opportunity for the smaller producer to trade in the futures market. Because of their smaller contract size the cost of trading per unit till be slightly higher than trading full contracts on the other markets. Some brokers may not trade on the Mid America Exchange, but one should have little trouble finding a broker who will trade this market.

Key Question 4. Who trades in the Futures Market? (Visuals 8 and 9)

Only members of the exchange can actually trade, but anyone can trade by working with a brokerage firm who is a member of the exchange. Membership in the Minneapolis Grain Exchange recently sold for $27,500.

The people who trade in the futures market fall into two general groups:

1. Hedgers - They trade to lock in a price for their commodities and reduce the risk of ownership.
2. Speculators - They buy or sell the contracts in the hope of making a profit on the price change. They may not own or produce the commodity. Speculators come from all walks of life - doctors, lawyers, professors, brokers, housewives or farmers. They are located in every state, but the heaviest concentration is in the Midwest. Since one can trade in futures market by paying the margin which is only 5 to 10% of the value of the commodity, it is possible to have ownership of a large amount of a commodity for a small investment.

Key Question 5. What does it cost to trade in the Futures Market? (Visual 10)

One cost of trading in the Futures Market is the "Margin". Margin requirements are relatively small, amounting usually to 10 to 20% of the value of the commodity traded. The margin money is "Earnest Money" required by the Exchange to bind the broker to the transaction. In turn, the broker must ask his customer for this "good faith" money. In addition to initial margin money, traders must maintain a margin reserve. This means that if the market movement results in a loss of more than a certain amount, the broker will ask for additional margin money. The additional margin money required is commonly referred to as "margin call". This margin call can amount to a rather sizable amount of money when the market moves against you. For many producers it is very important to have a banker willing to finance the margin call. Without proper financing

it can create a large drain on the farm cash flow. The other cost is brokerage fee.

Key Question 6. After deciding to trade in the Futures Market, how does one go about handling the transaction? (Visual 11)

The first, and an important, step is the selection of the broker you want to have handle your account. You should visit with several brokers in your area and select the one you feel comfortable with and one who seems knowledgeable in the commodities you are trading. Grain dealers, bankers and others may be helpful in suggesting brokers you may want to consider.

The Mechanics of Trading: To initiate a trade in the futures market you call your broker stating the order - Example: sell 5,000 bu. (one contract) of December Minneapolis Wheat. The broker calls Minneapolis office, the time is recorded, the order given a number and the trader goes on the floor, signals and sells a contract. The price is stamped out and signaled to the rest of the world. The confirmation of the sale is back in minutes. Trading in the commodity exchanges is simplified because of the uniformity of contract units. As a result a great volume of business may be transacted in a minimum of time.

Key Question 7. What is the function of the clearing house? (Visual 12)

Some of the functions of the clearing house of a commodity exchange are:

1. Collects and maintains the margin accounts of every member.
2. Guarantees all contracts.
3. All cash settlements are done with the clearing house.
4. Extend no credit to any broker.
5. Distribute notices of delivery when due.

Key Question 8. What are the types of orders one may place in the Futures Market? (Visual 13)

The types of orders are:

1. Market Order - Buy or sell at market with no regard to price.

2. Limit Order - Buy or sell within a specified time or at a specified price.

3. Stop Order - Get into or out of the market. Instructs the broker to initiate the order when the price moves to a specified level.

   Stop Order can be used to:

   a. Liquidate a position to limit losses.

   b. Protect profits.

   c. Initiate a new position.

4. Market if Touched Order - Like a limit order except it is executed at the market after the market has traded at a specified level.

Part IV. Summary.

A. A commodity exchange is a public market and everyone can trade in it by working with a broker.

B. A commodity exchange does not set the prices but provides the accomodations for buyers and sellers.

C. Farmers should use the futures market to reduce risk, not as a speculator.

D. The costs of trading in the futures market are: initial margin, margin call, commission fee and interest on margin money.

Part V. At-The-Farm Activity.

Discuss any parts of this lesson that may be of particular interest to the student. Answer any questions they may have which were not asked in class. For those who have never traded in the futures market, there is a certain mystery about it which must be overcome.

Part VI. Learning Resources.

Chalk board.
Overhead projector.
Transparencies: visuals 1 through 13.
Film: The Vital Force
16 mm Projector
AG Net Terminal
FUT GAME -- Program Simulation

Part VII. References.

"Understanding the Commodity Futures Markets" Cargill Incorporated.
"Futures and the Farmer" US Department of Agriculture Economics and Statistics Service.

Part VIII. Appendices.

A. Visuals 1 through 13.

B. Definition of terms and Feeder Cattle Hedging Problems.

Definitions of Terms:

1. Basis - The difference between your local cash bid and the futures market price for the same delivery period.
2. Bearish - A bearish market is one in which prices are going down.
3. Break - even selling price - The price at which you can sell your product and break even, but not make a profit.
4. Broker - A person paid a fee or commission for acting as an agent in making contracts or sales (places your hedging orders with a commodity exchange).
5. Buying Hedge - (or long hedge) Buying futures contracts to protect against possible increase in cost of commodities which will be needed in the future.
6. Bullish - A bullish market is one in which prices are going up. (Remember bearish and bullish this way - A bear kills by coming down on his victim; a bull kills by coming up with his horns).
7. Cash Market - The elevator or livestock buyer in the local area where farmers trade.
8. Clearing House - An agency connected with commodity exchanges which provides the mechanism by which all futures contracts are made, offset or fulfilled through delivery of the commodity and through which financial settlement is made.
9. Close, The - The period at the end of the trading session.
10. Closing Price - The price (or price range) recorded during the period designated by the exchange as the official close.
11. Commission House - The official close - A group or firm of brokers.
12. Commodity Exchange - A market where futures contracts are bought and sold.
13. Contract - A specified quantity of grain or livestock traded on a commodity exchange.

14. Cover - The cancellation of a short position in any future by the purchase of an equal quantity of the same future.

15. Delivery month - A specified month within which delivery may be made under the terms of a futures contract.

16. Delivery notice - A notice of a clearing house member's intention to deliver a stated quantity of a commodity in settlement of a futures contract.

17. Delivery points - Those points designated by futures exchanges at which the physical commodity covered by a futures contract may be delivered.

18. Differentials - The premiums paid for the grades better than the basis grade and the discounts allowed for the grades lower than the basic grade.

19. Hedging - A forward purchase or sale, transacted through a commodity exchange, the purpose of which is to lock in a price.

20. Initial margin - Money used to guarantee your position when you initiate your trade, usually 10% of the value of the contract.

21. Liquidation - A transaction made in reducing or closing out a long position.

22. Long - The buying side of a futures contract, having ownership of a cash commodity or futures contract.

23. Maintenance Margin - The minimum amount of margin deposit that the broker requires you to have in your margin account at all times.

24. Margin - A general term referring to money deposited with your broker to guarantee your futures position.

25. Margin Call - A call for additional funds to cover an adverse price movement.

26. Moving Hedge - Lifting and replacing hedge position as price levels change.

27. Position - An interest in the market in the form of open commitments.

28. Price Limit - The maximum fluctuation in price of a futures contract permitted during a trading session, as fixed by the rules of a contract market.

29. Round Turn - The execution of a purchase transaction and a sales transaction which offset each other.

30. Short - The selling of an open futures contract.

31. Switching - Simultaneously buying a contract for futures delivery in one month while selling a contract of the same commodity in another month, on the same exchange.

FARMERS MARKETING ALTERNATIVES USING THE FUTURES MARKET FOR HEDGING

Part I. Student Objectives.

A. To develop an understanding of the purpose of hedging.

B. To become familiar with who may use hedging.

C. To develop an understanding of the difference between hedging and speculating.

D. To develop the ability to calculate the gains and losses on the futures trading and the cash trading when hedging.

E. To develop an understanding of basis and how it may affect marketing decisions.

Part II. Transition of Units.

After having developed some understandings of how the commodity exchanges operate, this lesson deals with using the futures market as a marketing tool. Primary emphasis of this lesson is placed on hedging and is looked at as another marketing alternative in addition to the various methods of marketing through the cash market.

Part III. The Lesson.

Attention Focuser.
At the last class session the "Futgame" was introduced and each student was asked to turn in trade slips. This marketing game will be continued this session as it will be in future sessions. Hand out the computer print-out showing last week's transactions, discuss how to read it, and answer questions. Post the today's closing future prices for the six commodities being traded, pass out trade slips, and ask the students to turn in their trade slips properly marked. Any significant change in prices should be noted and the question raised as to the reasons for this change. If help is available, input the new trade transactions while this class is being conducted. This will allow you to get a new printout for each student showing his gains, losses and margin calls if they occurred.

The film "People, Products and Prices" produced by the Chicago Board of Trade and available from Modern Talking Pictures, may be used to further explain the futures market and hedging.

Suggested Teaching Strategy.
Since this lesson ties in very closely with the previous lesson one may want to review the operation of the futures market so all students have a good understanding of how they function.

In teaching the concept of hedging keep in mind that this is new to many students and that there may be many misconceptions about what hedging is. The previous knowledge of the class will determine how much time is spent on this unit and how many worksheets are used to develop the understanding of hedging

Preview the film, prepare the class for the film and show it during the class session where it best fits.

The use of the overhead projector visuals can be used to focus attention on each portion of the lesson.

A representative of an ag lending agency may be brought in to discuss the financing of hedging.

A broker may be brought in for a presentation and answer questions.

Key Question 1. What is hedging in the futures market? (Visual 1)

Hedging is using the futures market for price protection. He will take a position in the futures market in order to protect a commitment made or plans to make with regard to the actual commodity. Hedging allows a farmer to lock in a price any time during the production year or while the grain is in storage. The purpose of hedging is to reduce risk.

Key Question 2. What groups of people will normally hedge? (Visual 2)

Hedging may be done by anyone who owns or intends to own commodities. These may include farmers, processors, grain elevator operators, manufacturers, and exporters.

Key Question 3. Why and when should a farmer hedge? (Visual 3)

The reason for hedging is to lock in a price range and reduce risk. This can sometimes be done by forward contracting on the cash market but forward contracts are not always available for a specific crop or to fit an individual situation. If the cash market can not be used to lock in a price the futures market can oftentimes be used. An advantage of using the cash market, when you can, is that there will be no brokerage fees or interest costs to pay.

In order to wisely hedge a producer must know what his production costs

are. A person should not hedge unless he can make a profit. A hedge can lock in a loss as well as a profit if the price is not right. Even though the hedge isn't always advantageous from a profit standpoint, it does offer better flexibility. If a crop is hedged and later find that the production wasn't up to original expectations, we aren't committed to deliver the grain. We have the option of buying back our hedge; with a cash forward contract we would need to fill the contract, which would mean buying the commodity to deliver.

There are disadvantages of hedging also. (Visual 3A)

Key Question 4. What are some examples of types of hedges?

A. Short Hedge - A sale or forward pricing hedge a farmer may make at planting time. (Visual 4)

Cash		Futures	
April price	$5.00	Sell a Sept. wheat contract for	$5.00
Harvest Sell Cash	4.00	Buy back Sept. futures for	5.00
Less	$1.00	Gain	$1.00

In this example a farmer would receive $5.00 for his wheat less the cost of trading in futures market. $4.00 from cash sale plus the $1.00 made on the futures transaction.

B. Long Hedge - A farmer buys a futures contract to protect against the prices of feeders going higher. (Visual 5)

Cash		Futures	
October price	$75.00	Buys Jan. feeder cattle at	$81.50
January buys steers	85.00	Sell Jan. feeder cattle at	91.50
Loss	$10.00	Gain	$10.00

In this example a feed lot operator would pay $75.00 for his steers plus the cost of trading in futures market. $85.00 paid in January less the $10.00 gain in the futures transaction.

C. Complete Hedge - when more than one commodity is traded in the futures market. An example of this would be a feedlot operator who: (Visual 6)

1. Buys feeders
2. Buys corn
3. Sells live cattle

Date	Commodity	Cash	Futures
Nov.	March corn	$ 3.05	$ 3.70 Buys
	March feeders	80.00	83.50 Buys
	Dec. live cattle	71.00	75.00 Sells
March	Corn	$ 3.25 Buys	$ 3.90 Sells (Visual 7)
		3.05	3.70
		$ - .20	$ +.20
		Actual cost $3.05	
	Feeders	$ 85.00 Buys	$88.50 Sells
		80.00	83.50
		$- 5.00	$+5.00
		Actual cost $80.00	
December	Live Cattle	$ 65.00 Sells	$69.00 Buys
		71.00	75.00
		$ -6.00	$+6.00
		Actual selling price $71.00	

In this example three hedges were used to lock in a purchase price

for the corn and feeder animals and the selling price of the fat animals. Ignoring any of these three could have a great effect on the potential profit of the enterprise.

D. All of these examples are perfect hedges in that the price differences in the cash market are the same as the price differences in the futures market. Future prices generally move in the same direction as the cash prices, but will not always move the same amount.

Key Question 5. What is "Basis"? (Visual 8)

Simply stated basis is the difference between your local cash bid and the futures market price for the same delivery period. In theory futures prices and prices paid for cash commodities tend to move up or down together. This parallel movement makes hedging possible. In practice, however, these price differences (basis) tend to be influenced by certain news events and don't necessarily follow the parallel rule. Basis is the single most important factor in any hedging transaction.

When you hear someone in the grain business discuss basis, however, he is generally talking about the difference between the local cash price and the nearest futures delivery month. For example, in January the current basis for corn would be the difference between the local cash price and the March futures price. On or soon after the first trading day of the delivery month the basis calculation switches to the next delivery month. For example, on the first of March, the basis for corn is computed as the amount by which the local cash price is below or above the May futures price.

Key Question 6. What are the components of the basis? (Visual 9)

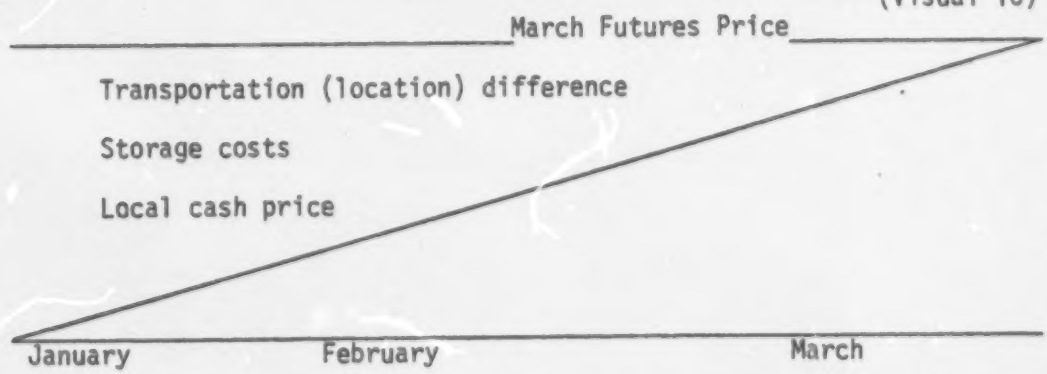
The first component is the amount by which the local cash price is below the cash price in Chicago or Minneapolis. Due essentially to transportation cost. A second component is the amount by which the Chicago or Minneapolis

cash price is currently below the nearly futures price. This difference is due to a number of factors: storage costs, handling costs and seller's profit margins.

Key Question 7. How is the basis affected by the passage of time?

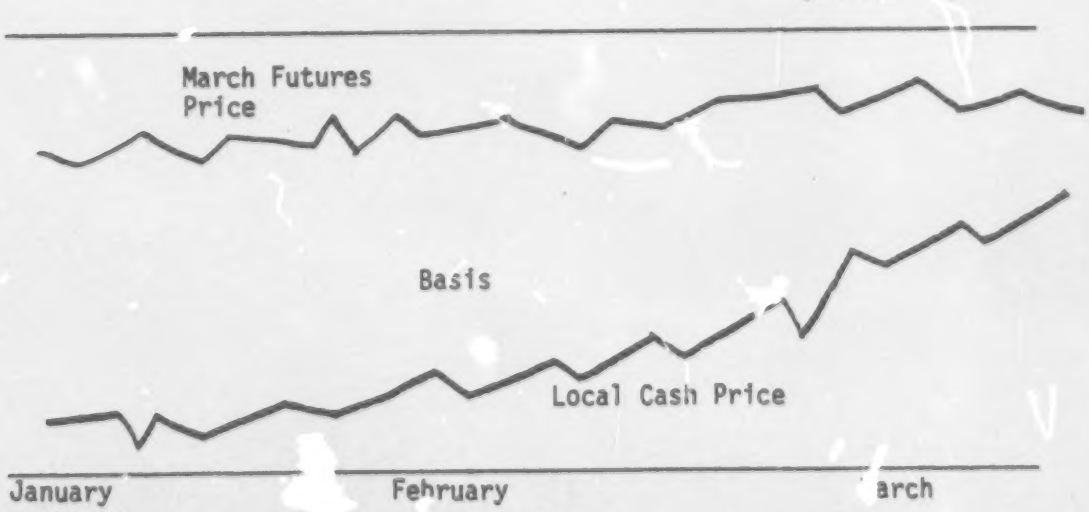
The most predictable feature of the basis is its tendency to narrow - by the amount of reduced storage costs - as the delivery month approaches. If storage costs of 4¢ a month are included in the basis, the likelihood is that the basis will narrow at the rate of 4¢ a month. This assumes that the other basis components remain unchanged. The tendency of the basis to become narrower as the delivery month is approaching is known as convergence.

(Visual 10)



In the real world of fluctuating prices, the cash-futures price relationship is seldom as exact as depicted above but is more typically as below.

(Visual 11)



Key Question 8. Of what importance is it to understand basis? (Visual 12)

Without a knowledge of the usual basis and basis patterns for your particular community, it is impossible to make fully informed decisions about:

1. Whether and when to store crop.
2. When and in what delivery month to hedge.
3. Whether to accept or reject a price.
4. When to lift a hedge.
5. How to turn unusual basis into possible profit.

Key Question 9. What are some guidelines for determining how much of the crop to hedge? (Visual 13)

To make the decision of whether or not to hedge the producer should study the fundamental factors, basis patterns and other technical indicators.

Here are some guidelines for the amount of crop you should hedge:

A. Never sell more than 50% of your crop until you can see it in the field and be assured of at least a 50% crop.

B. Never hedge 100% of a growing crop regardless of how sure you are.

C. Don't sell more than 25% of your crop at any time, unless you are anxious to pass risk away fast to achieve some specific management objective.

D. Don't hedge more than 25% of your production the first time you hedge until you are familiar with the mechanics of hedging. Hedging 5,000 bu. or less is preferable for the first trade.

E. Don't hedge more than one third of your crop before it is planted. (In high risk area, you may want to reduce this to 10%.)

Part IV. Summary

A. Hedging can be a useful marketing alternative, but many factors must be considered before making the decision to hedge.

B. It is necessary to know your costs of production. Don't hedge if you can't lock in a profit.

C. Start small, go slow while you are learning the techniques of hedging, hedge a small portion of your production on the futures market. If you make a mistake the lesson won't be so costly.

D. Don't hedge too fast. Use a "scale-up" or "scale-down" technique. It prevents over-committing at any one price. For example, if you decide to hedge 50% of your cash crop, you might sell 10% at the current market, then another 10% each 4¢ change in the market.

E. Once you start trading in the futures market, involve your partner. Farm wives are a valuable asset in hedging. "Two heads are better than one" is applicable in hedging.

F. Stick to your guns. If you start getting margin calls, don't chicken out. Stick with a hedge to be a true hedger.

Part V. At-The-Farm Activity.

This may vary depending on the nature of the farming operation, experience with hedging, and effectiveness of past marketing plans.

Some of these activities may be:

1. Discuss hedging to anwer questions the husband or wife may have.

2. Discuss the costs and possible need for financing if hedging is used. Be sure they fully understand margin calls.

3. Work with the farmer so he understands what his costs of production are. Study the enterprise analyses; but add in those costs not allocated, such as labor, interest, utilities, and other. When a hedge is placed be sure it locks in a profit and not a loss.

4. Once the farm couple understands hedging and appears to be ready to consider placing a hedge work with them so they are introduced to a broker.

Part VI. Learning Resources.

Chalkboard.
Overhead Projector.
Transparencies.
Handouts - Worksheets.

Part VII. References:

"The Hedgers Handbook" The Marketing Advisory Service, 1200 35th St. West, Des Moines, Iowa 50265.

"Professional Hedging Handbook" by Merrill J. Oster Professional Farmers of America, 219 Parkade, Cedar Falls, Iowa 50613.

"Understanding Basis", Board of Trade Clearing Corporation, Chicago Board of Trade.

"How to Make Livestock Futures Work for You", Chicago Mercantile Exchange.

"Futures Trading in Live Beef Cattle", CME.

"Futures Trading in Live Hogs", CME.

"Futures Trading in Feeder Cattle", CME.

Part VIII. Appendices.

A. Visuals 1 through 13.

B. Worksheets - Key for Grain Marketing Problems.

C. Worksheets - Key for Livestock Hedging Problems.

FACTORS TO CONSIDER IN REACHING A MARKETING (SELLING) DECISION

Part I. Student Objectives.

A. To recognize that as a producer of commodities one has a choice in marketing as to methods, means and time of year.

B. To apply each of the marketing factors in the process of determining when to sell.

C. To determine the cost of production of each commodity in order to aid in making the decision to sell.

D. To be able to distinguish between fundamental and technical market price analysis and to put each to the best use possible in marketing strategy.

E. To calculate basis spread (price quotation) on grain commodities and understand the seasonal variations that occur.

F. To manage the cash flow needs so as to provide the most flexibility in marketing to farm-ranch clients' own advantage.

Part II. Transition of Units.

The previous lessons dealt with the various marketing alternatives that are available to the farmer. Those alternatives can only be put to use after the decision of when to market is answered. This lesson will give the farmer-rancher client a set of guidelines to use in reaching that decision.

Part III. The Lesson.

Attention Focuser

Present "Your Marketing Strategy" Handout 1 as a real thought provoker. What is his marketing strategy? What are his objectives for price in certain commodities. (Instructor may want to keep these handouts - and have them identified - they make very interesting reading in the future!)

Suggested Teaching Strategy

The ultimate goal of the client-participant should be to develop a marketing plan early in the calendar or fiscal year. The plan should be inclusive, meaning that all major commodities raised are earmarked for actual disposal at a specified time, place and price. The farmer-rancher should have the marketing plan

in writing and it should be referred to frequently throughout the course of the business year.

This lesson shall lay out the critical factors that each client should address before attempting to develop his/her own marketing plan. The presentations in this lesson should be given ample time for study of the examples, handouts and worksheet problem sets. A special effort should be extended toward each client in providing sufficient time to actually work out the calculations in class. The most fruitful discussions and actual learning will take place after each participant has had an opportunity to experience for herself/himself the ease of computing the desired end results.

The resource materials and references available to teach this lesson should be updated continually, but at least annually so as to avoid using obsolete information. The management principles involved shall remain the same, but the marketing charts, tables and prices are likely to change each year.

Key Question 1. What are some factors to be considered in reaching a marketing decision? (Visual 1)

A. Cost of production.

B. Fundamental analysis.

C. Technical or chart analysis.

D. Seasonal and cyclical trends.

E. Basis following.

F. Cash flow needs.

(Note to instructors: This is not meant to be an all inclusive list, but it does focus attention on the important areas. Other areas of consideration which could be developed could be: risk bearing ability of the individual, stress bearing ability, and others.)

Key Question 2. Since selling above the cost of production is a factor, how is the cost of production determined?

Rich Brock from (Richard A. Brock and Associates, Inc.) says that within each year, the market will give you an opportunity to sell above

the cost of production.

Determining the cost of production is a real football, frankly. There are many factors to consider and it obviously is different for each individual. It will vary widely depending whether the individual utilizes actual costs, opportunity costs, or a combination of both. Does he use a rapid double declining depreciation or a slow straight line method? Is his labor calculated as a direct cost? How does he value his land?

So there is no easy answer and certainly no one can say "This is exactly what my wheat cost/bushel. But - a close estimate can be reached. Some factors to be considered and some variable approaches follow.

A. Different kinds of costs. (Visual 2)

1. Fixed costs.

   Fixed costs are those which are incurred regardless of the amount of production. From a marketing standpoint, this really approaches the question, "Do I produce or not?" If production does not cover the fixed costs, the farmer is better off idle. Examples of fixed costs could be ownership costs of land (if owned), buildings and machinery, some general overhead and interest costs. These costs must be paid whether or not a bushel or pound is produced.

2. Variable costs.

   Variable costs are costs which are directly related to actual production. (However, once the expenditure is made, the cost item actually becomes a fixed cost.) Examples may be feed, fertilizer, chemical, seed, repairs, fuel, some interest, and cash rent.

3. Opportunity costs.

Opportunity cost is the return realized from any resource if used in an alternative manner.

For the sake of this discussion, we are primarily thinking of the opportunity cost of money. For example, owned land for which the wheat crop is being charged $30/acre, because that is the going cash rent. If that land is paid for, the $30 cost is a non-cash opportunity cost charged to the wheat crop. The farmer could also use market value x interest and calculate an opportunity charge.

B. Cost per unit of production - figured by enterprise.

(Handout 2 - Table 10-0080, Visual 3)

(Note to instructors: A copy of Table 10 would be good to hand out at the beginning of this discussion. If the group is not experienced with the FBM analysis, a review of the table would be helpful.)

1. Crops: Using the Farm Business Management analysis Table 10, refer to line 29, "Total listed costs per unit of production." This is the cost/bushel or hundredweight for all the costs listed in the table. Obviously, there are some assumptions which must be made and should be pointed out.

   a. Line 23 is total allocated costs and includes costs that can only be allocated (unless very detailed records are kept). The total includes machinery ownership, fuel, repairs, operation, land and interest on machinery investment. Some considerations should be made when evaluating these allocated costs:

      1) Machinery ownership costs: is depreciation fast or slow?
      2) How was land cost calculated if owned land is being analyzed?

3) What is included in the misc. cost? Usually this is a summerfallow charge.
4) Interest on machinery and equipment investment is a computer generated figure from Table 5. It is an opportunity charge on the undepreciated balance on machinery and equipment. It should not be misconstrued to include all interest charges.

b. The farmer should also be aware of how line 29 is calculated: line 30 (total listed costs) divided by line 2 (yield). Therefore, it is a direct function of yield. Obviously then, a yield increase or decrease will directly affect the cost of production.
c. This cost of production does not include the costs which can be added for utilities, general farm expenses, buildings and fences, interest, and other costs.

2. Livestock.

The livestock tables of the FBM analysis calculate cost/unit of production on a per head, cwt, or litter basis.

(Handout 3 - Table 15A, Visual 4)

C. "Cash flow" cost per acre.

(Note to instructors: Use Handout 4 for this discussion. Develop an example appropriate to your area's crops and have the students work through the example exercise. Then, with the cash flow figures brought into the classroom, or estimated cash flow needs, have the farmer develop his own cash flow cost/acre.) (Visual 5)

This concept is to be used for major crop - minor livestock operations. It is tailored for the highly leveraged farmer who is greatly concerned about meeting fixed mortgage payments and general cash flow needs.

This cash flow model can be used for the entire marketing year or a portion of the year. It will assist the farmer to get a birdseye view of his out of the pocket cash flow requirements per acre. It is not meant to be a crop by crop profitability analysis.

For high cost acreages combined with low cost acreages, the "total income needed from crops" can be broken down between various acreages.

Example of high cost acreages combined with lower cost:

"Total income needed from crops" = $200,000

500 acres sugarbeets @ $200/a = $100,000

1000 acres sunflowers @ $100/a = $100,000

Key Question 3. What is fundamental analysis and how can we use it?

A. Fundamental analysis is the study of the supply and demand factors in any given market. Fundamental analysis relates supply/demand changes to ending carryover and attempts to interpret the price effect of a given carryover.

As an example of fundamental information available, the USDA crop report makes a good example. (Handout 5 - Visual 5)

(Note to instructors: Handout 5 is only an example of one report and there are many other stock reports for each commodity. Since they are in constant need of being updated, the entire series of stock reports are not included in this curriculum. Update reports are available from your extension marketing specialist. Rich Brock's Brock Report updates the information weekly.)

1. Supply, in the USDA report, is the various quantities of a product which will be placed on the market at all possible alternative prices in a given time period, other things being equal. In the report it consists of the following three factors. (Visual 6)

a. Beginning carryover.
b. Production.
c. Imports.

2. Demand is the various qualtities that will be purchased at all possible alternative prices in a given time period, other things being equal. In the USDA report, demand consists of:

(Visual 6)

a. Domestic demand.

1) Feed.
2) Food, seed.

b. Export demand.

3. The difference between supply and demand is called carryover. The grain trade and USDA projects an estimated carryover for the coming year and this dictates much of the grain trades price expectations.

B. Influences which affect the fundamental picture.

1. Supply:

a. Weather. (Refer to Handout 6, "Palmer Drought Index")

(Visual 7)

1) Don't forget the big picture. A wet or dry back yard has nothing to do with the big picture.
2) The grain trade will know the weather well in advance of the farmer. Thus much of the news the farmer deals with can easily be "old news."

b. Acreage - Planting intention reports are periodically released and are readily available in news services. Example of planting intentions report - (Handout 7 - Visual 8)

c. Government programs and policies.

1) A certain target price in a commodity or a strong disaster program or loan program may shift supplies drastically.
2) Reserve policies can isolate the supply temporarily from the free market. A reserve policy may also "dump" the CCC stocks on the open market.

2. Demand. (Visual 6)

a. Feed.

Feed consumption can play a major factor in the demand of a commodity. Corn, milo, barley, and oats are of course affected primarily here, but in times of low price or low quality, wheat can enter this picture. Feed demand can be affected by:

1) Livestock populations.
2) Price relationships with feeds of other classes.

b. Food (domestically).

1) The state of the economy affects the buying power of the consumers and their demand for food. This is felt first in the red meat markets.

2) Price relationships between other foods, i.e., poultry vs. pork vs. mutton vs. beef, etc.

c. Export.

1) Worldwide weather quickly affects the export demand of a foreign buyer, e.g., Russian wheat sales.
2) The strength of the dollar in currency markets. As the dollar strengthens, it becomes increasingly more costly for a foreign buyer to purchase U.S. grain, and vice versa.
3) The political climate. 1980 Russian grain embargo.

3. Other fundamental considerations. (Visual 9)

a. Interest rate (affects short run commercial demand).
b. U.S. trade policies.
c. New technology.
d. Seasonality patterns of a commodity.
e. Transportation.

C. Keeping up with fundamental news. (Visual 10)

1. Be well read on the USDA reports. (You may not believe them, but generally the grain trade does.) Some of the more important ones:

a. USDA supply/demand reports.
b. Planting intention reports.
c. Export reports (inspections for export).
d. Pig crop report.
e. Cattle on feed reports.

2. Be on at least one news service. Some of the more popular ones: (Visual 11)

   a. Profarmer.
   b. Topfarmer.
   c. Farmers Grain and Livestock.
   d. Doanes.
   e. The Brock Report.
   f. Ag. Marketing Service.

Key Question 4. What is technical analysis?

A. Technical analysis is the study of a market in relation to price movement that is attributed only to conditions developing from within the market itself. These conditions include changes in open interest, volume, the extent of a price movement, and chart formations.

B. Price Charts are the "Bible" for technical analysts. They are a newsreel showing the day to day struggle between supply and demand, which is resolved daily in a factor called price. Some considerations: (Use Handout 8 - Visual 12, a typical bar chart)

   1. Each vertical line on the chart is one day's market activity. The high, low and close is noted on each day's activity. A dot would indicate a "gap" movement in a limit move where there was no trade taking place.
   2. Downtrends, uptrends, and many formations are followed on these charts. (Instructor may give as much depth to this subject as he desires.)

C. Some technical concepts:

   1. Trends. Once established, a trend tends to persist. The fact that a buyer is willing to pay more for a commodity than the previous buyer is the expectation that prices will go up, and vice versa.

a. Downtrends are drawn across market highs.
b. Uptrends are drawn across market lows.

2. Resistance and support zones. Resistance is the upper price zone where prices may go several times but never penetrate. The opposite is true for support zones. Consider when the market drops after a peak or long sideways movement. There are always "longs" (buyers) who refuse to sell, regardless of how low the market may go, as they refuse to take a loss. Finally the market moves back to a break even, and the long is happy to just get his money back - so he sells out. This scenario is repeated countless times, adding much selling - downward pressure to the market. Thus, a resistance zone is formed. The opposite picture would be true for a support zone.

3. Chart analysis does not ignore supply-demand fundamentals; it attempts to study the markets' response to supply demand. From the farmer's point of view, it should be looked at as more of a timing mechanism, used for determining the more "fine-tuning" decision of when to sell.

D. Bar Chart rules. (See Handout 9 - Visual 13 for examples of some charting rules.)

Key Question 5. What are seasonal trends and cycles?

A. Seasonal trend movements refer to similar price patterns that have a tendency to repeat themselves the same time each year over a period of years. This occurs because of recurring events: harvest, opening or closing of lakes, beginning of harvest, spring and fall gluts in slaughter.

(Instructors note: Use Handout 10 to show the various seasonal patterns.)

Price Cycles are longer term cycles relating to major shifts in production. Examples of some cycles with the approximate time between price peaks:

1. Cattle - 11 years.
2. Hogs - 4 years.
3. Soybeans - 3-4 years.

(Instructors note: Use Handout 11 to show the livestock price (supply) cycles.)

Key Question 6. What is basis and how can it be used in a marketing plan?

Basis is the difference between the cash and futures price (usually quoted in reference to the nearest option in the futures). It is an indicator of relative demand for a commodity by the buyers.

A wide basis is created by indadequate transportation, a large crop, no commercial storage available, and high interest. A narrow basis is caused by the reverse of these factors. (Instructor: use Handout 12 - Visual 14).

A farmer should sell when the basis is narrow, on the cash market. If a sale is necessary during times of wide basis, it should be done on the futures market.

(Instructor: use Handout 13 - Visual 15), which is a series of handouts and exercises on the use of basis and will give a hands on feel for the use of it.)

Key Question 7. How should cash flow needs enter into a marketing plan?

If a farmer needs cash, for whatever reason, he has to sell. Sadly

this is too often the sole marketing factor used by many farmers. However, he can plan the cash flow into his marketing plan. Let's assume the farmer has to sell all of his HRS by Dec. 31 to meet a Jan. 1 mortgage payment. He then can use the time - price method of selling. Two factors are known: 1) all of his wheat has to be sold by year end (at whatever price), 2) he has about 4 months in which to plan his selling.

The following time - price scale up selling framework could then be set up. (Visual 16)

Sept. 15	$3.75
Oct. 15	$4.00
Nov. 15	$4.25
Dec. 15	$4.50

Come Sept. 15, the farmer would sell 25% of his crop for $3.75. He would sell an additional 25% at $4.00 or on Oct. 15, whichever came first, and so on. By year end, he would have all his wheat sold.

Key Question 8. Can a decision making checklist be made with the above six factors?

Yes - see (Handout 14 - Visual 17). The farmer could analyze each of the factors and determine if a given factor would dictate holding the commodity or selling. If a majority of the factors indicated sell, use that as a guideline to sell.

If the cash flow need is bad enough, it would override all the other factors and dictate a sell.

Part IV. Summary.

A. A marketing plan should be developed after all alternatives and management factors are considered by the farm business manager.

B. The market does provide producers an opportunity to sell above the cost of production sometime during the business year.

C. Calculating production costs, including fixed, variable and opportunity costs, can help the manager target a potential profit when compared to the current or projected selling price.

D. Determine total income needed from crops and calculate a cash flow cost/acre for the farmer-rancher business year.

E. Implement the access to and make use of the fundamental (news) data, Ag-Marketing (news) Services and technical (chart) analysis pertaining to commodities raised.

F. A farmer should sell when the basis is narrow, on the cash market and if a sale is necessary during times of wide basis, it should be done on the futures market.

Part V. At-The-Farm Activity.

A number of important activities are appropriate at this time and should be implemented on an individual client's interest, desire and time available to the tasks.

1. Determination of cost of production per unit may be necessary and helpful to the client.

2. Calculation and projection of the required cash flow needs may be pertinent.

3. Computation of basis spread between local cash and futures quotations may be in order.

4. Selecting and subscribing to an Ag. Marketing (news) Services may be an important activity.

5. Charting, whether the client does his/her own or uses a commercial source, may also be explored.

Part VI. Learning Resources.

Chalkboard.
Overhead projector.
Transparencies - (Visuals)
Handouts - Worksheets.
Slide-Tape Presentation.

Part VII. References.

"USDA Commodity Supply - Distribution Charts", Crop Reporting Board, Room 0005, USDA, Washington, D.C. 20250.

"Palmer Drought Index", in weekly Weather and Crop Bulletin, NOAA/USDA Joint Agricultural Weather Facility, USDA South Building, Room 3526, Washington, D.C. 20250.

"Planting Intentions Report", Crop Reporting Board, Room 0005, USDA, Washington, D.C. 20250.

"Using Commodity Price Charts", Commodity Price Charts, 219 Parkade, Cedar Falls, Iowa 50613.

"Charting Farm Markets", Top Farmers of America, 22 E. Michigan, Milwaukee, Wisconsin 53202.

"Charting Commodity Prices", EC-643 Cooperative Extension Service, North Dakota State University, Fargo, N.D. 58105.

"Weekly Marketing Charts", Richard A. Brock and Associates, 700 North Water Street, Milwaukee, Wisconsin 53202.

Part VIII. Appendices.

A. Visuals 1 through 17.

B. Handouts 1 through 14.

C. Special Assignment.

D. Worksheets - Margin Problems.

Part IX. Graphs pertaining to price patterns to be made available -- Norman Toman.

Graphs of seasonal price patterns are being prepared for:

1. Slaughter steers.
2. 4-5 weight calves.
3. 6-7 weight yearlings.
4. Cull cows.
5. Feeder pigs.
6. Slaughter hogs.
7. Slaughter lambs.

These will show the long-term price patterns and give an indication of how the pattern may have changed in recent years. The graphs will be available by early fall. Eventually, some text describing the patterns, reasons for particular price movement and reliability of the investigation will be published, but this will likely not be available until 1982.

Special Assignment

DEVELOPING A WRITTEN MARKETING PLAN

I. Develop your own cash flow plan.

   A. This will show you when your major payments are due.

   B. Selling periods should be targeted, over a period of time, toward these payment periods.

II. Develop your own outlook.

   A. Use fundamental and technical information to develop your estimate on a price range for the marketing year.

   B. Set price objectives on what you aim to receive from each commodity. This should relate to your cost of production and your cash flow requirements.

III. Develop a written time-price selling plan. (It must be written, as this stimulates additional thought and planning.)

   A. Example: Farmer Jones has $40,000 of financial obligations by Dec. 31. He has 4000 bu. of HRSW to sell. He feels the outlook would give a $3.75 - $4.25 price range. His objective is at $4.25.

Sept. 15	-	$3.75	sell 1000 bu.
Oct. 15		$3.95	sell 1000 bu.
Nov. 15		$4.10	sell 1000 bu.
Dec. 15		$4.25	sell 1000 bu.

IV. Time the sale by going through the decision making process of using the "sell - hold checklist". This avoids falling into the trap of emotional marketing.

(Show visual from past unit.)

V. Learning Resources.

"Developing a Marketing Plan", Norman Toman, Livestock Marketing Specialist, N.D. Cooperative Extension Service, North Dakota State University, Fargo, N.D. 58105

Visual 1
Lesson 1

LOCAL

TYPES OF MARKETS

Country Elevator.

Country Livestock Sales Barn.

Visual 2
Lesson 1

REGIONAL MARKETS

1. Provide a cash market for grain consignments made by Country Elevators.
2. Buyers are largely processors, exporters and terminal elevators with storage space.
3. Certain of these markets, such as Chicago, Minneapolis and Kansas City provide a futures market as well as a cash market.

NATIONAL AND INTERNATIONAL

1. Many times they are the same firms.
2. Probably some 10 to 12 firms control most of the grain exported from the U.S.
3. Some examples would be Cargill and International Multi Foods.

LIVESTOCK PROCESSING AND MARKETING OUTLETS

Type of Commodity	First Handler	Subsequent Handlers
Beef cattle, hogs and sheep	Auction markets Terminal markets District sales markets	Feed lots Meat Packers Meat Slaughterers Renderers Wholesalers Brokers Curers Fabricators
Hides, skins, pelts, mohair and wool	Processors Curers	Mills Manufacturers
Milk and Milk Products	Haulers Processors Bottlers Manufacturers	Distributors Wholesalers Brokers Institutions

Visual 5
Lesson 1

GRAIN PROCESSING AND MARKETING OUTLETS

Type of Commodity	First Handler	Subsequent Handlers
Grains (wheat, barley)	Elevators Driers Brewers Malters	Bakers Distributors Wholesalers Exporters Millers Processors Seed Houses

WHY DO PEOPLE TRADE

1. John has what Joe needs.
2. Trade has changed with the needs and wants of the people.
3. Some areas have a comparative advantage over others.

Visual 7
Lesson 1

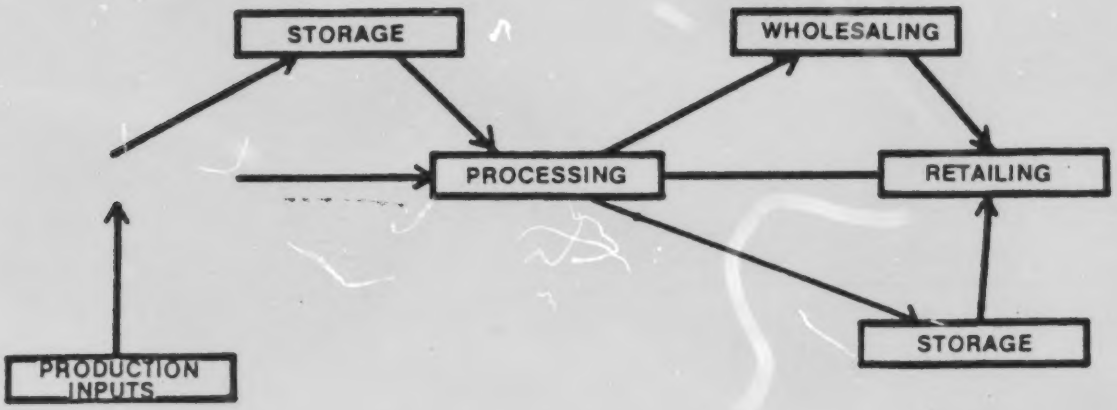
SUMMARY

1. Wealth can be increased by means of trade.
2. People specialize because they can increase this wealth by doing so.
3. They specialize in activities in which they have comparative advantage.

Visual 8
Lesson 1

ANATOMY OF A MARKET

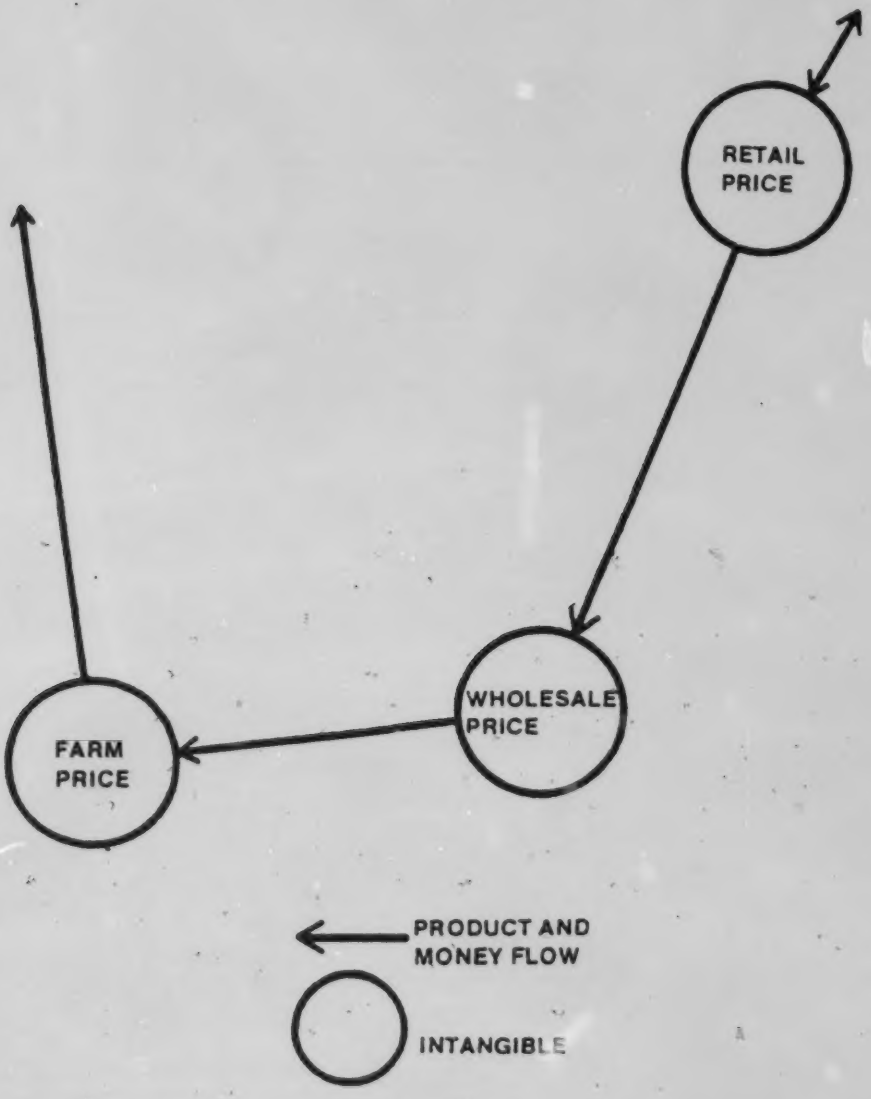
ANATOMY OF A MARKET



TANGIBLE FUNCTION

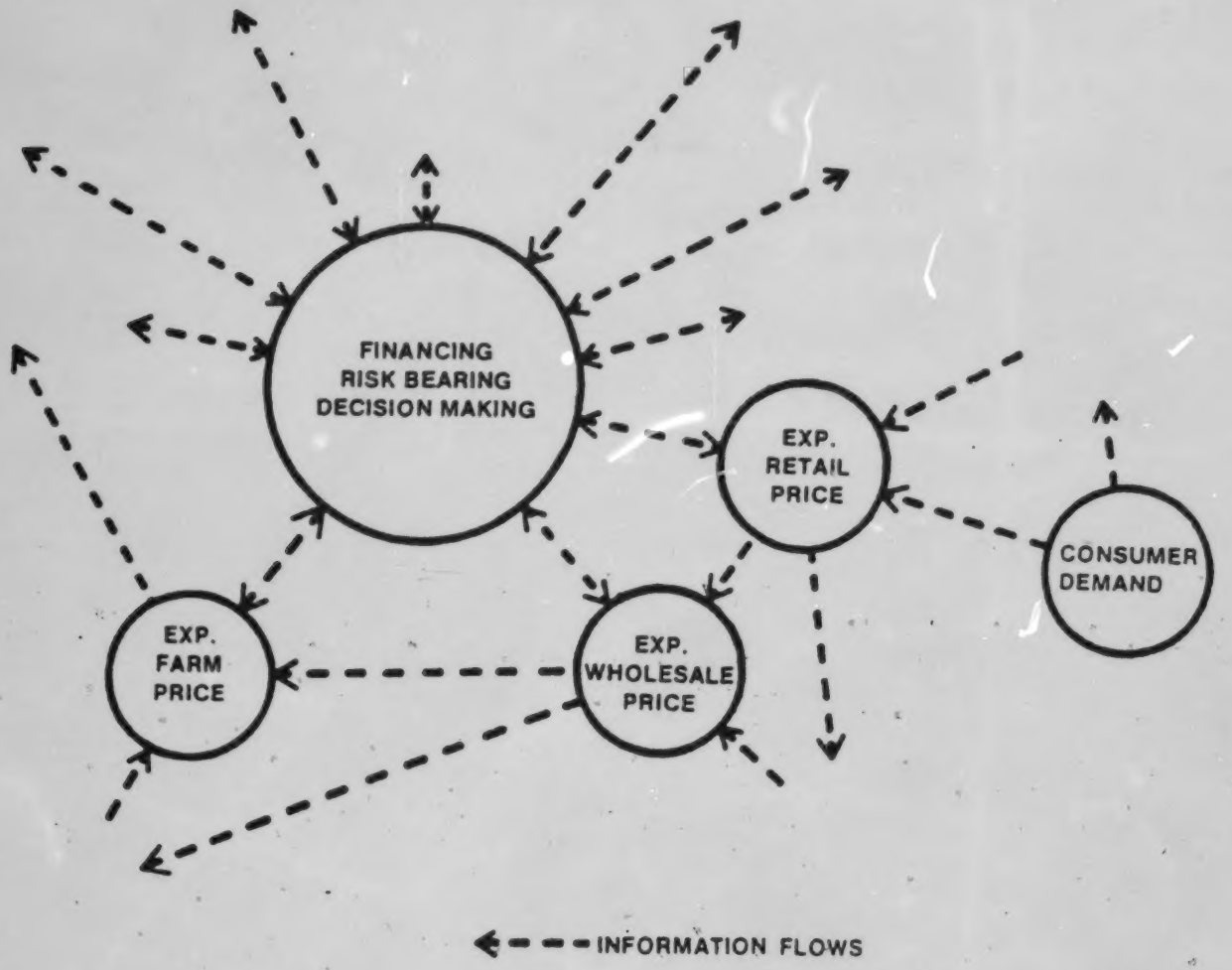
Visual 10
Lesson 1

ANATOMY OF A MARKET



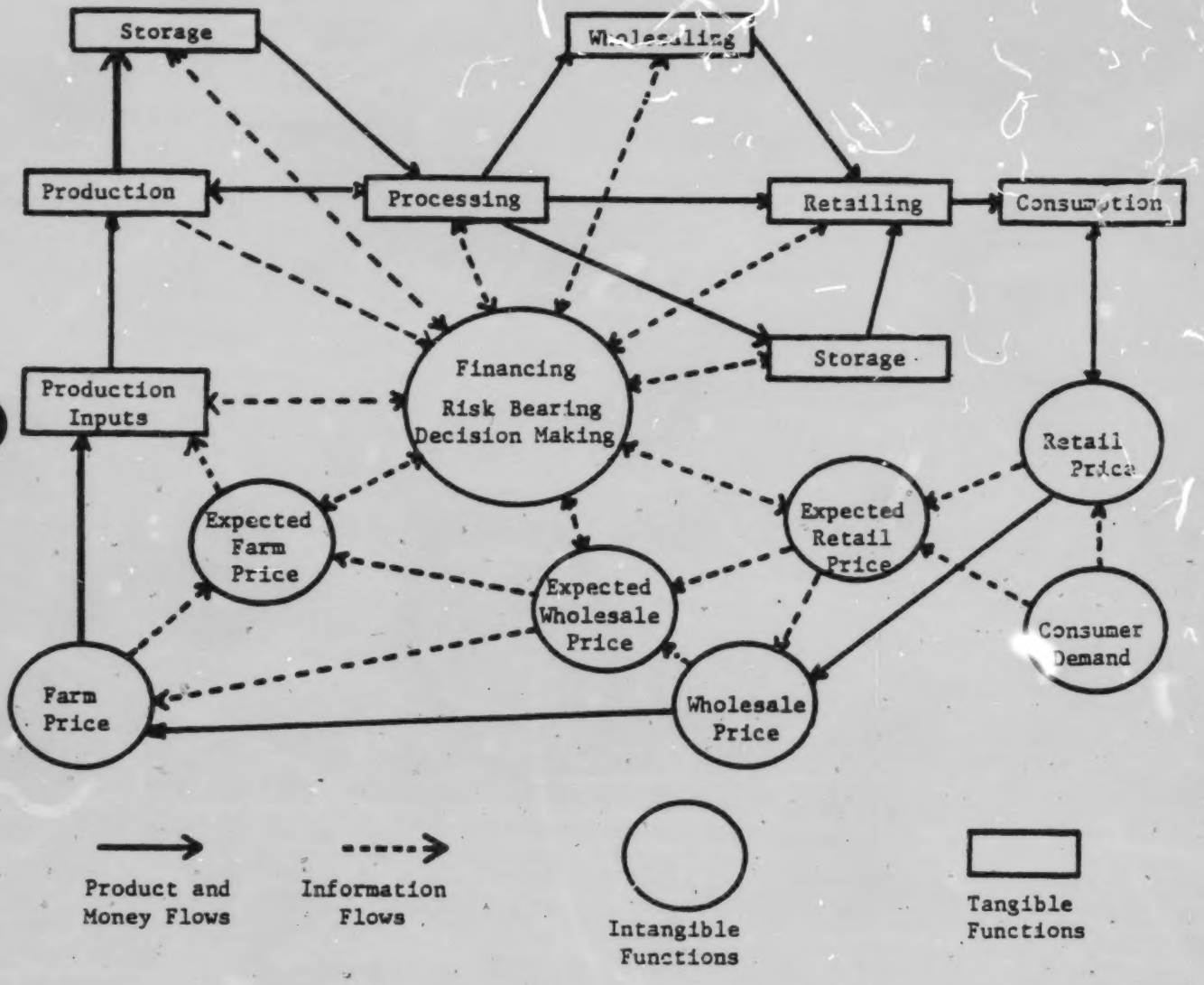
Visual 11
Lesson 1

ANATOMY OF A MARKET



Visual 12
Lesson 1

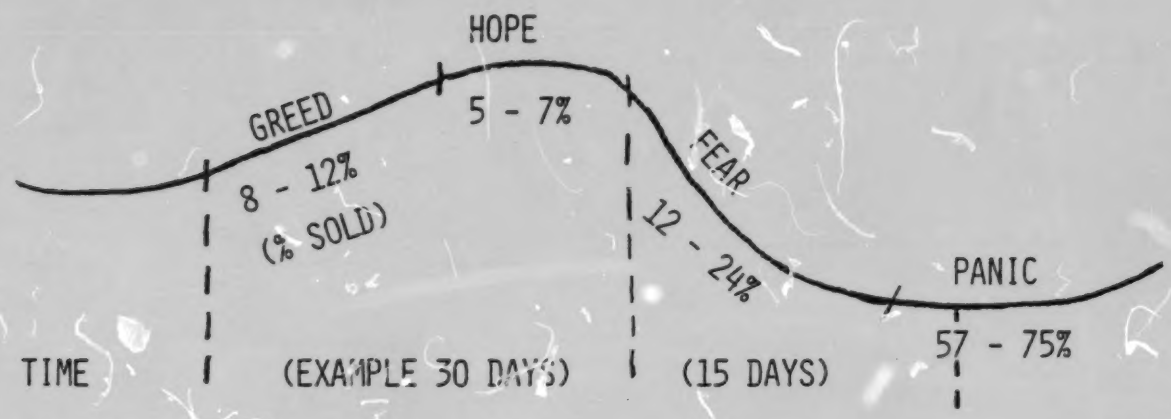
ANATOMY OF A MARKET



Visual 1
Lesson 2

DOES IT PAY TO IMPROVE YOUR MARKETING?

I. SELLING CURVE FOR FARMERS



II. 1980 SELLING OF CORN AND SOYBEANS

A. BETTER THAN 60% OF ALL CORN AND SOYBEANS SOLD BY FARMERS WAS SOLD IN LOWER 1/3 PRICE RANGE

B. LESS THAN 10% OF ALL CORN AND SOYBEANS SOLD BY FARMERS WAS SOLD IN THE UPPER 1/3 PRICE RANGE

C. EXAMPLE FOR 1980, SOYBEAN PRICE RANGE $5.12 - $8.78
CORN PRICE RANGE $1.88 - $3.26

IF YOU RAISED 150 ACRES OF CORN WITH A 120 BUSHEL YIELD AND 150 OF SOYBEANS WITH A 40 BUSHEL YIELD,

YOUR INCOME RANGE:

TOP 1/3	-	$ 95,760 - $111,360
MIDDLE 1/3	-	$ 80,160 - $ 95,670
BOTTOM 1/3	-	$ 64,560 - $ 80,160

Visual 2
Lesson 2

FUNCTIONS OF PRICE IN COMPETITIVE ECONOMY

1. To guide and regulate production.
2. To guide and regulate consumption.
3. They are to guide and regulate the distribution both over a period of time and from place to place.

Visual 3
Lesson 2

A. RADIO AND NEWSPAPER REPORT

1. Not specific enough.
2. Usually do not indicate what it will do to supply. A good sounding report may have no effect on price.

MARKETING AND PRODUCTION DECISION

Should be determined by current situations.
You should look at

1. Production
   - World
   - U. S.
2. Carry over
   - World
   - U.S.
3. Disappearance - current year with past.
4. Exports
5. Government Programs.
   - Give you idea of Price Prospects.

Visual 5
Lesson 2

WORLD WHEAT
(MILLION METRIC TONS)

	1975/76	1977/78	1978/79	1979/80	1980/81	1981/82
Production	350.4	382.8	447.7	419.3	443.2	—
Beginning Stocks	63.7	100.3	82.6	105.7	87.0	93.0
Total Supply	414.1	483.1	530.3	525.0	530.2	—
Use	352.3	378.5	424.7	438.0	437.2	—
Ending Stocks as % of Use	17.9	20.6	24.9	19.9	21.2	—

Visual 6
Lesson 2

U.S. WHEAT
(MILLION ACRES)

CROP YEAR _____ _____ _____

	Planted		
	Harvested		
	Yield/Acre		
HARD RED SPRING	Planted		
	Harvested		
	Yield/Acre		
DURUM	Planted		
	Harvested		
	Yield/Acre		

*For wheat production

Visual 7 Lesson 2

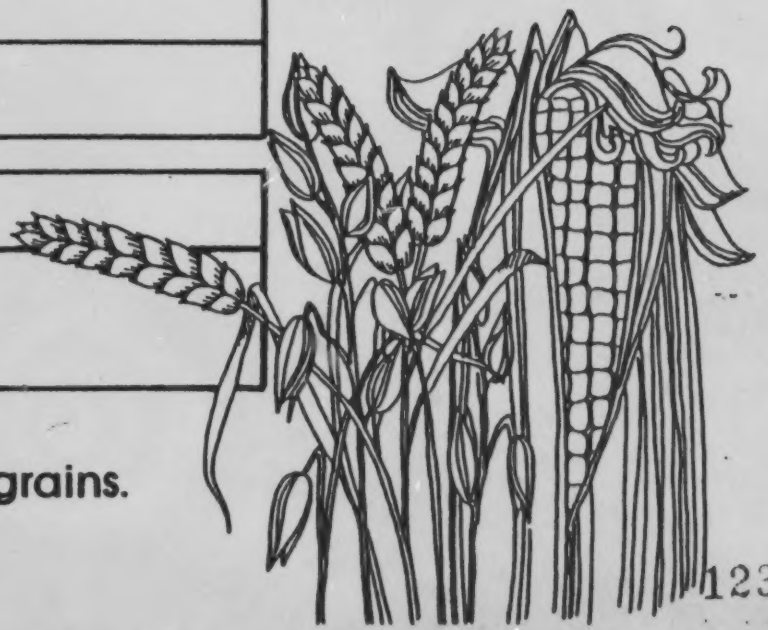
Crop

_____
(MILLION BUSHELS)

PRODUCTION YEAR _____ _____ _____

SUPPLY	beginning stocks production imports	
	Total	
USE	Total Domestic Exports	
	Total	
	Ending Stocks	
	Ending Stocks as % of Use	

*For wheat and feed grains.



Visual 8 Lesson 2

Crop _____

(MILLION BUSHELS)

MARKETING YEAR _____ _____ _____

SUPPLY	beginning stocks
	production
	Total Supply
USE	crushing
	exports
	seed, etc.
	Total Use
	Ending Stocks

*Use for oilseeds.

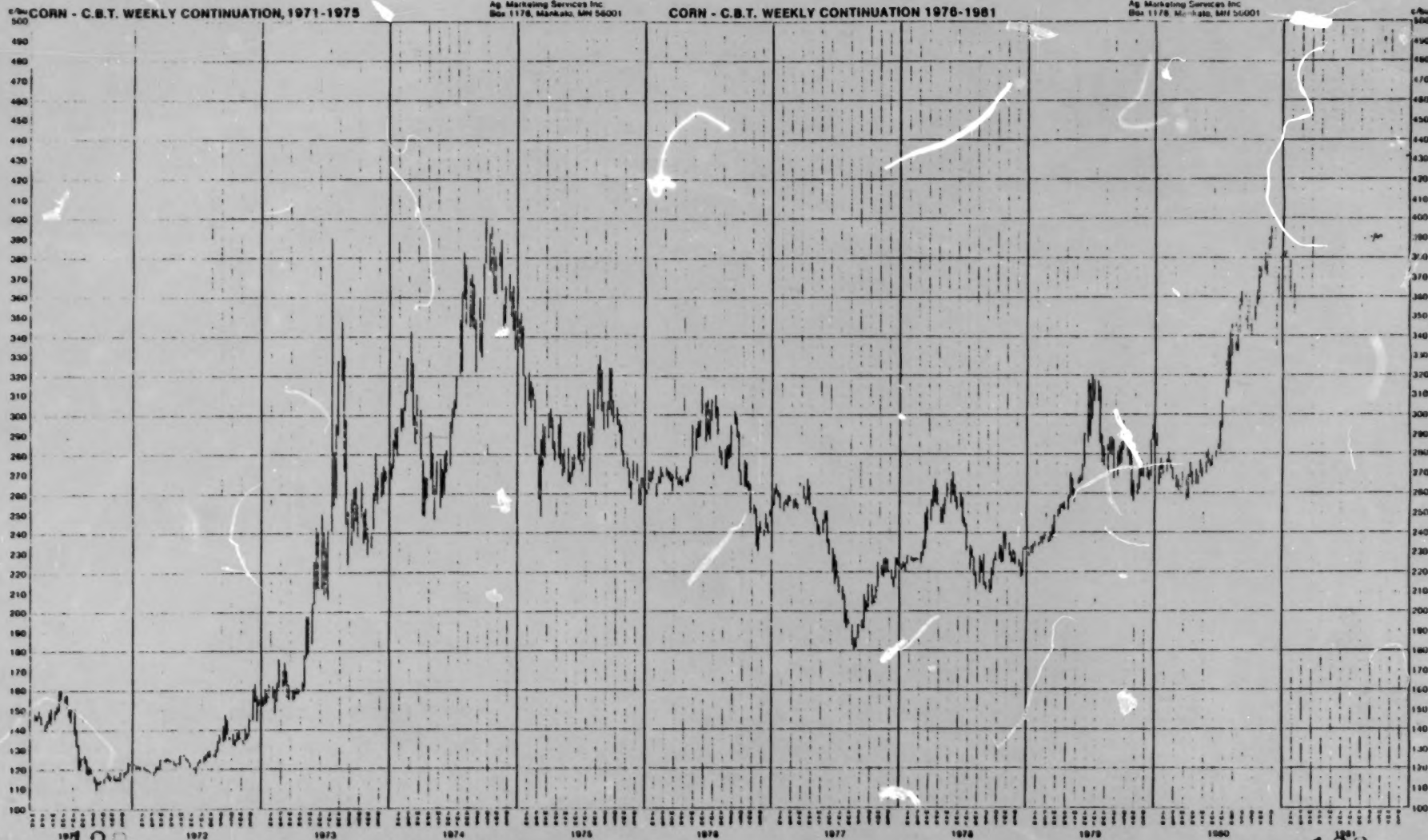
PRICE DETERMINATION

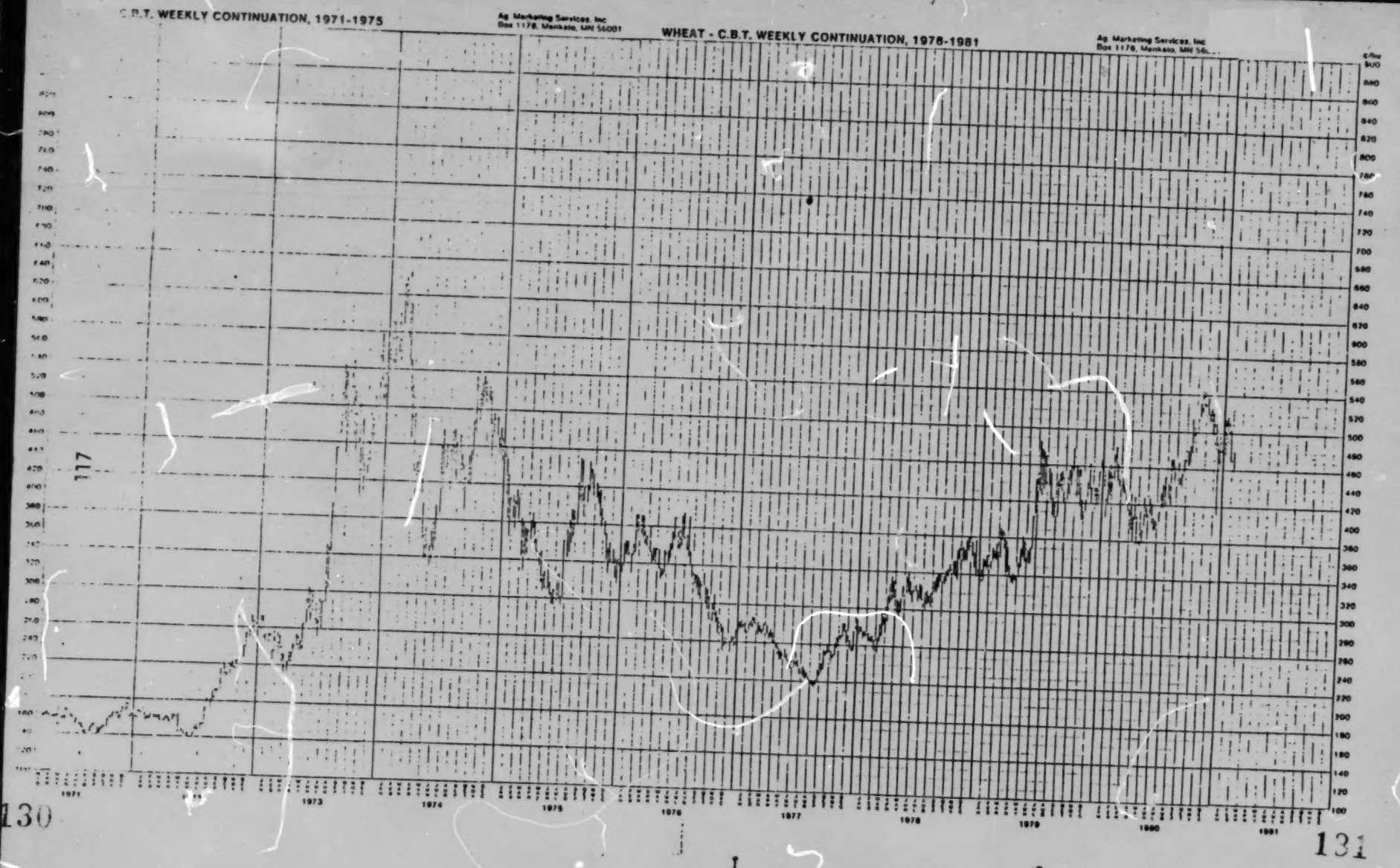
1. Demand
2. Supply
3. Market

MARKET PRICE

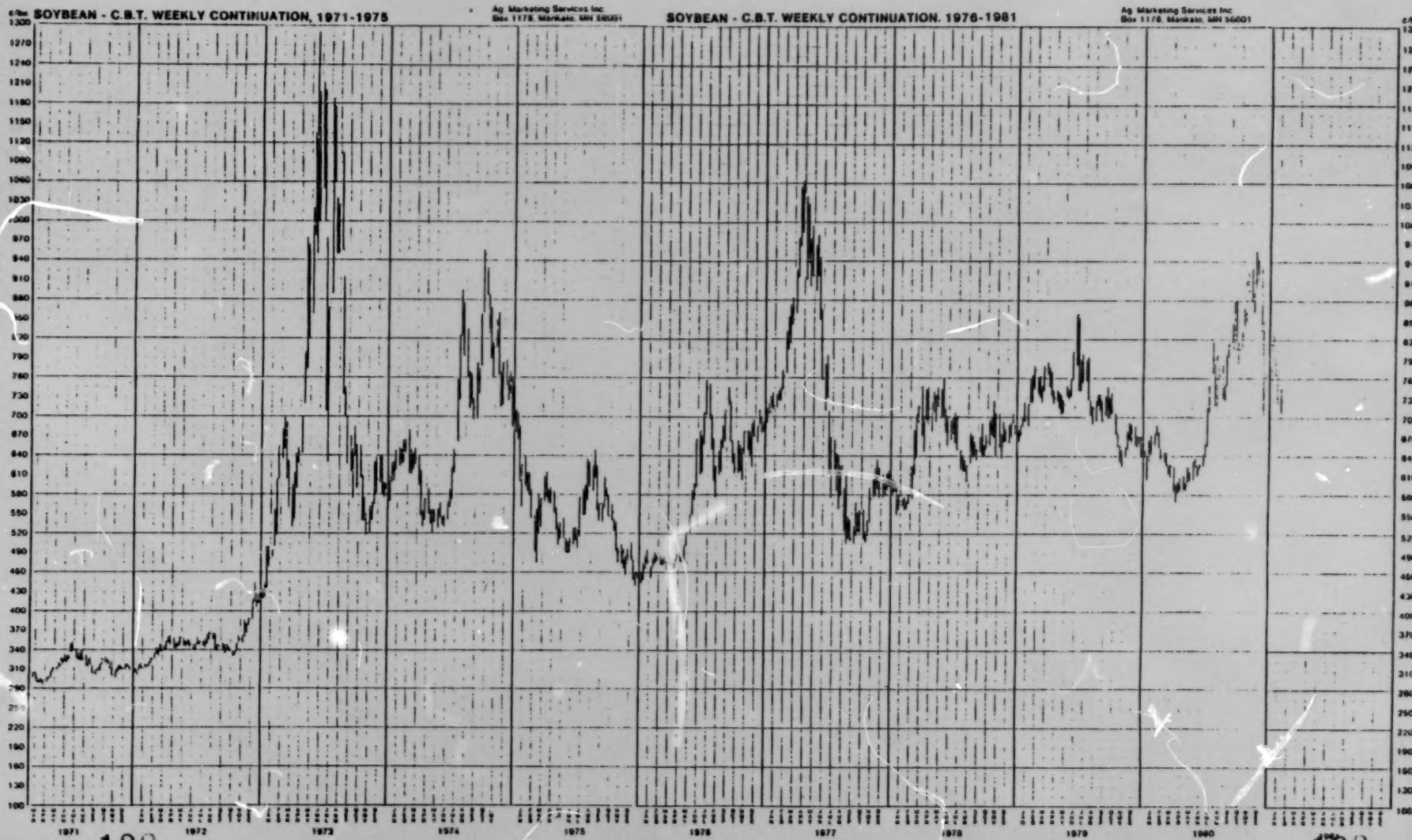
The price which supply and demand come together.

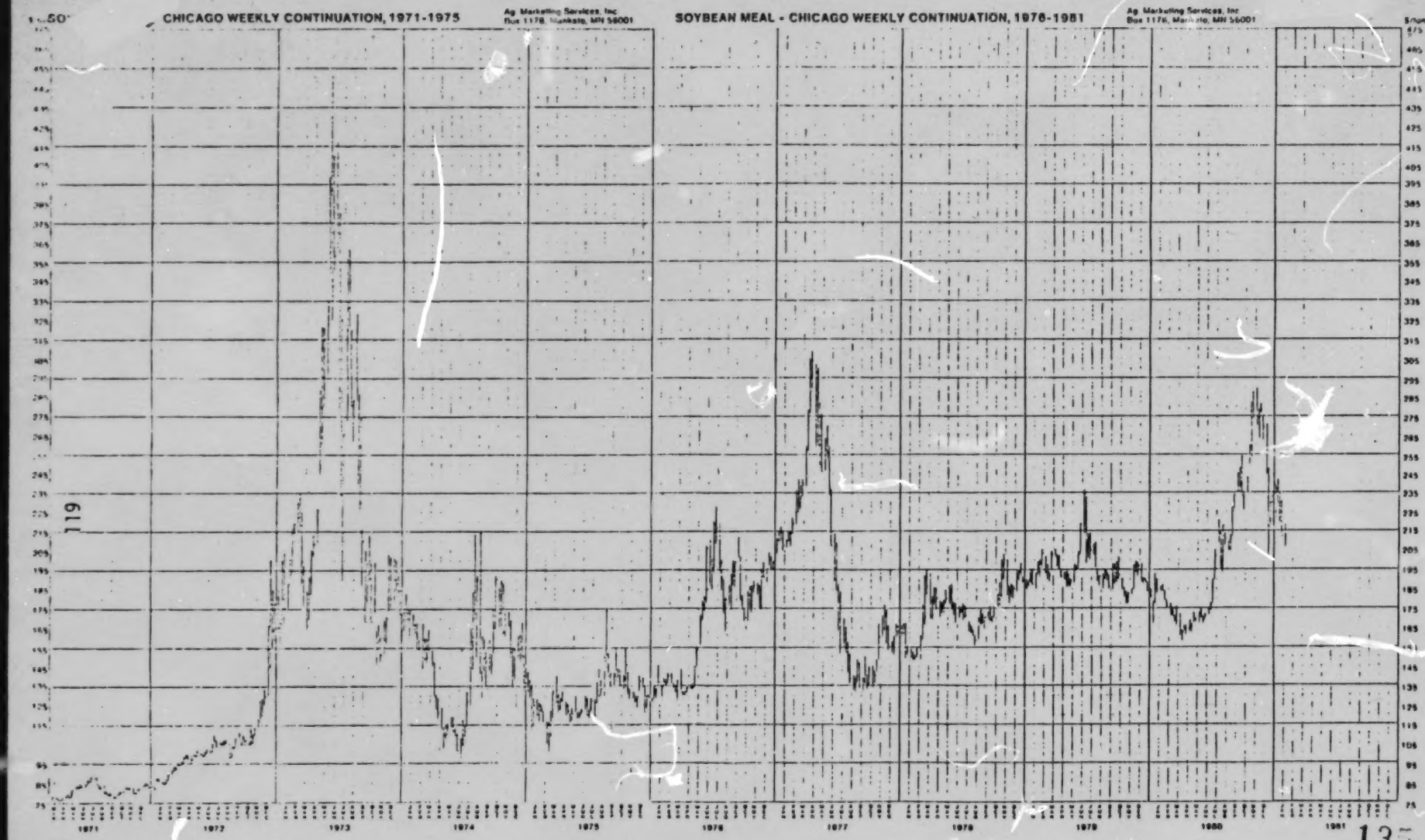
Marketing Charts
Lesson 2



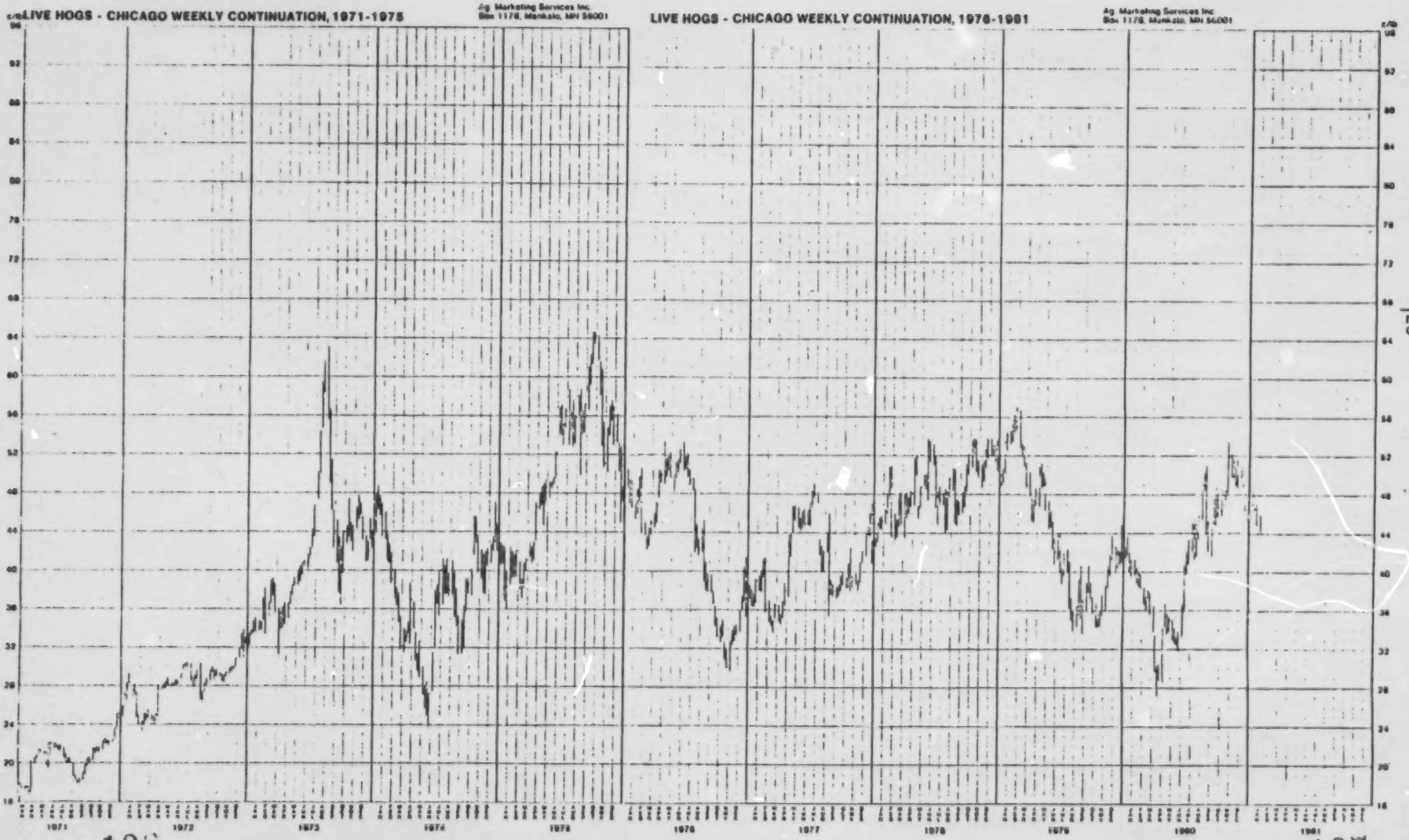

C.B.T. WEEKLY CONTINUATION, 1971-1975
Ag Marketing Services, Inc
Box 1178, Mankato, MN 56001
WHEAT - C.B.T. WEEKLY CONTINUATION, 1976-1981
Ag Marketing Services, Inc
Box 1178, Mankato, MN 56...
¢/bu
117
1971
1973
1974
1975
1976
1977
1978
1979
1980
1981

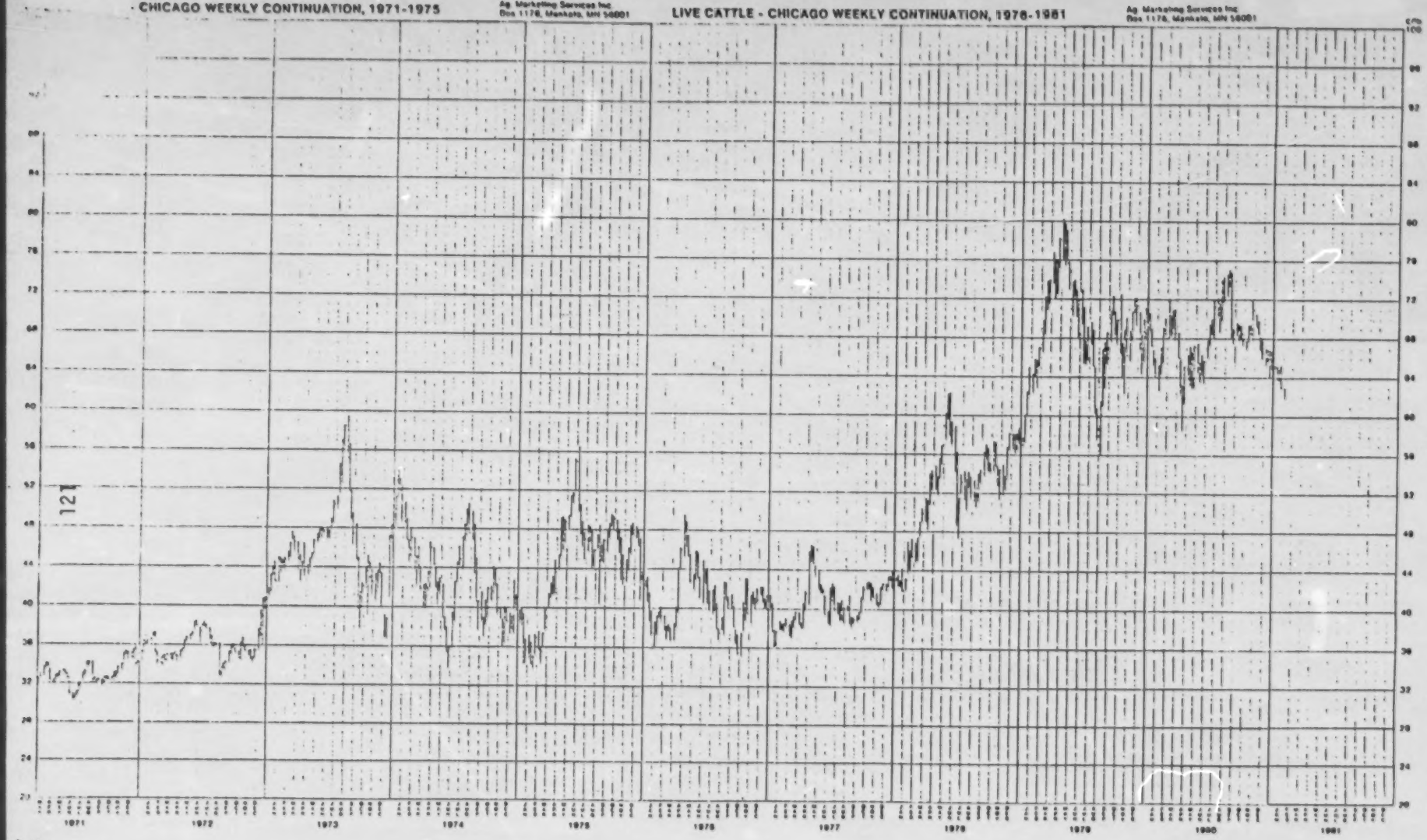
Marketing Charts
Lesson 2




CHICAGO WEEKLY CONTINUATION, 1971-1975
Ag Marketing Services, Inc
Box 1178, Mankato, MN 56001
SOYBEAN MEAL - CHICAGO WEEKLY CONTINUATION, 1976-1981
Ag Marketing Services, Inc
Box 1178, Mankato, MN 56001
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981

Marketing Charts
Lesson 2




CHICAGO WEEKLY CONTINUATION, 1971-1975
Ag Marketing Services Inc
Box 1178, Mankato, MN 56001
LIVE CATTLE - CHICAGO WEEKLY CONTINUATION, 1976-1981
Ag Marketing Services Inc
Box 1178, Mankato, MN 56001
121
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981

Visual 1
Lesson 3

MARKETING CONSISTS OF:

1. Pricing
2. Delivery

Visual 2
Lesson 3

SELL CASH GRAIN AT HARVEST

ADVANTAGES

1. No need for extensive storage on farm.

2. Maintenance of quality not producer responsibility.

3. Provides cash at harvest.

4. Elimination of storage shrink for producer.

Visual 3
Lesson 3

SELL CASH GRAIN AT HARVEST

DISADVANTAGES

124

1. Producer rarely gets season high price at harvest.
2. Congestion of transportation and handling facilities.
3. Sometimes less flexibility in adjusting income for tax.
4. Producer loses control of grain for use as collateral.

Visual 4
Lesson 3

STORE GRAIN AT HARVEST FOR LATER SALE

ADVANTAGES

1. GENERALLY A GOOD RETURN FOR STORAGE

2. STORE AT ELEVATOR

   A. Fewer facilities needed
   B. Risk of shrink and quality shifted
   C. Escape from extra handling

3. STORE AT FARM

   A. Often saves time and cost
   B. Insures competitive storage cost

Visual 5
Lesson 3

STORE GRAIN AT HARVEST FOR LATER SALE

DISADVANTAGES

1. FARM STORAGE COSTS

A. Shrink
B. Maintenance of quality
C. Extra handling
D. Interest on capital invested in grain
E. Farm stored grain not always accessible

126

Visual 6
Lesson 3

EQUATION FOR STRAIGHTLINE DEPRECIATION

$$\frac{\text{Total Cost}}{\text{Life Expectancy}} \div \text{Avg. Annual Bushels Stored} = \text{Annual Depreciation per Bushel}$$

Visual 7
Lesson 3

EQUATION FOR INTEREST ON AVERAGE ANNUAL INVESTMENT

$$\frac{\frac{\text{Total Cost}}{2} \times \text{Interest Rate}}{\text{Estimated Annual Occupancy}} = \text{Annual Interest Cost per Bushel}$$

128

Visual 8
Lesson 3

FIXED COSTS

	CENTS/BU/YR
Depreciation	.0406
Interest	.0406
Insurance	.0024
Total Fixed Cost	.0836

Visual 8a
Lesson 3

FIXED COSTS

	CENTS/BU/YR
Depreciation	_____
Interest	_____
Insurance	_____
Total Fixed Cost	_____

Visual 9
Lesson 3

INTEREST COST OF STORING GRAIN

Grain Value/Bu	Monthly Cost			
	7%	8%	9%	10%
	cents/bu.			
$1.00	0.58	0.67	0.75	0.83
2.00	1.17	1.33	1.50	1.67
3.00	1.75	2.00	2.25	2.50
4.00	2.33	2.67	3.00	3.33
5.00	2.92	3.33	3.75	4.17

131

Visual 10
Lesson 3

VARIABLE COSTS

	CENTS/BU./YR.
Repairs at 1/20 of Annual Depr.	.0020
Grain Insurance	.0025
Pest Control & Fumigation	.0150
Labor	.0020
Elevator Operating Cost	.0010
Total Variable Cost	.0225

Visual 10a
Lesson 3

VARIABLE COSTS

	CENTS/BU./YR.
Repairs at 1/20 of Annual Depr.	_____
Grain Insurance	_____
Pest Control & Fumigation	_____
Labor	_____
Elevator Operating Cost	_____
Total Variable Cost	_____

133

Visual 11
Lesson 3

COST OF STORAGE

	CENTS/BU/YR
Fixed Cost	.0836
Variable Cost	.0225
Total Cost	.1061

Visual 11a
Lesson 3

COST OF STORAGE

	CENTS/BU/YR
Fixed Cost	_____
Variable Cost	_____
Total Cost	_____

Visual 12
Lesson 3

CONTRACT CASH GRAIN BEFORE HARVEST

ADVANTAGES

1. Price is established ahead of harvest
2. Producer usually assured of outlet for grain
3. Cash contract usually made with local person
4. Contract can be made in any multiple
5. Freedom from margin calls and re-occurring charges
6. Cash contract for specific price

136

Visual 13
Lesson 3

CONTRACT CASH GRAIN BEFORE HARVEST

DISADVANTAGES

1. Reduces producer flexibility

2. Cash contract must be delivered

Visual 14
Lesson 3

CONTRACTING GRAIN FOR DEFERRED PAYMENT

1. Usually for tax advantage

2. Several advantageous sales may occur same year

3. Sometimes sold grain can earn storage for producer

Visual 15
Lesson 3

THE PRICE SUPPORT PROGRAM

ADVANTAGES

1. Guaranteed minimum price
2. Obtain loan
3. Low interest rate

Visual 16
Lesson 3

THE PRICE SUPPORT PROGRAM

DISADVANTAGES

1. Farmer must guarantee quantity and quality
2. Must cooperate with government
3. Small fee

140

Visual 17
Lesson 3

EVALUATING PRICE SUPPORT PROGRAMS

Compare Costs

vs

Potential Returns

Visual 18
Lesson 3

LOAN vs SELL

Cash Price Today	$ _____
Add:	
Interest on loan	+ _____
Variable cost	+ _____
Shrink	+ _____
Break Even in 6 months	$ _____

142

Visual 19
Lesson 3

LOAN vs SELL

Sell Cash Wheat	**$_____**
Add:	
Interest earned: __ mo.	**+_____**
Net Returns in 6 mo.	**$_____**

Visual 20
Lesson 3

LOAN & FARMER OWNED RESERVE

ADVANTAGES

144

1. Farmers can influence price
2. Receive 26 1/2 ¢ per year storage payment
3. Can waive interest after first year
4. Can take out loan

Visual 21
Lesson 3

LOAN & FARMER OWNED RESERVE

DISADVANTAGES

145

1. Can't sell until release price reached
2. Must pay back unused storage payments upon redemption
3. Loan is called at 175% of loan rate

Visual 22
Lesson 3

EVALUATING LOAN AND FOR

Options: 1 and 2

Assume:
- Cash price stays at loan
- Interest rate or opportunity cost at 10%
- Variable cost at 2¼¢ per bushel
- Storage at 26½¢ per year
- Shrink at 1% of value

146

Visual 23
Lesson 3

OPTION 1

Loan	**$ _____**
Add:	
Storage earned	**+ _____**
Interest earned	**+ _____**
Less:	
Variable cost	**– _____**
Shrink	**– _____**
Net Return After 3 Years	**$ _____**

Visual 24
Lesson 3

OPTION 2

Sell Cash Wheat	**$ _____**
Add:	
Interest earned	**+ _____**
Net Return After 3 Years	**$ _____**

Visual 25
Lesson 3

EVALUATING LOAN AND FOR

- Options: 3 and 4
- Assume:
  - Cash at $4.00, loan at $3.00
  - Release price (4.20) reached in 6 months
  - Cash price in 6 months at $4.30
  - Interest earned or opportunity cost at 10%
  - Interest paid on loan at 11½%
  - Storage at 26½¢ per year
  - Variable cost at 2¢ per bushel
  - Shrink at 2¢ per bushel

149

Visual 26
Lesson 3

OPTION 3

Loan		$ _____
Add:	Storage earned __ mo.	+ _____
	Interest earned	+ _____
Less:	Interest on loan	− _____
	Opp. cost on $1.00	− _____
	Variable cost	− _____
	Shrink	− _____
Net gain or loss		+/− _____
Add:	Sell Wheat	+ _____
Net Returns		$ _____

Visual 27
Lesson 3

OPTION 4

Sell Cash Wheat	$ _____
Add:	
Interest earned	+ _____
Net Returns	$ _____

INTEREST COSTS OF STORING GRAIN[1]

Hugh J. McDonald
Extension Economist

A major cost of storing grain regardless of whether the grain is stored on the farm or in the elevator is the interest cost. The rate of interest may be figured either on the basis of an existing loan which the value of the grain would pay off or the potential rate of return from an investment from the proceeds of a grain sale. The latter is the opportunity cost of storage.

Consider the person who did not borrow money to store his wheat valued at $3 per bushel. Even though the grain is stored in the producer's own bin, there is a charge (opportunity cost) that must be charged to the cost of storing the wheat. If the money invested in wheat could be invested in a certificate of deposit at 9 percent, the opportunity cost on $4 per bushel wheat is .0300 (3 cents) per bushel per month. If the producer stored the wheat from September to February (6 months), the price would have to increase 18 cents just to pay the interest.

Now consider the producer who <u>had</u> to borrow money at 11 percent interest to put in the wheat crop and expects to pay back the loan from the sale of wheat. If the producer is storing $4 wheat, the cost is .0367 (3 2/3 cents) per bushel per month. If this wheat was to be stored for six months, the price rise would have to be 22.02 cents (.0367 x 6) just to pay the interest.

There are other costs of grain storage that are not always considered such as shrink, insurance and depreciation on farm storage bins, but they are discussed in other publications.

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[1]This material was adapted from information prepared by Art Sogn, Extension Economist, South Dakota State University.

The following table can be used as a ready reference to figure the interest cost for holding grain in storage. Example: If a farmer borrows money at 9 percent interest to store $5 wheat, the interest cost is .0375 or 3 3/4 cents per bushel per month. For interest rates above 11 percent, double the costs below. For example: At 12 percent, the monthly cost for $5 wheat is .0250 x 2 = .0500 or 5¢.

INTEREST COST FOR HOLDING A GRAIN INVENTORY AT VARIOUS COMMODITY VALUES AND INTEREST RATES

Price Per Bushel	Cost in Cents, Per Bushel Per Month					
	6% Int.	7% Int.	8% Int.	9% Int.	10% Int.	11% Int.
$ 1.00	.0050	.0058	.0067	.0075	.0083	.0092
1.25	.0063	.0073	.0083	.0094	.0104	.0115
1.50	.0075	.0088	.0100	.0113	.0125	.0138
1.75	.0088	.0102	.0117	.0131	.0146	.0160
2.00	.0100	.0117	.0133	.0150	.0167	.0183
2.25	.0113	.0131	.0150	.0169	.0188	.0206
2.50	.0125	.0146	.0167	.0188	.0208	.0229
2.75	.0138	.0160	.0183	.0206	.0229	.0252
3.00	.0150	.0175	.0200	.0225	.0250	.0275
3.25	.0163	.0190	.0217	.0244	.0271	.0298
3.50	.0175	.0204	.0233	.0263	.0292	.0321
3.75	.0188	.0219	.0250	.0281	.0313	.0344
4.00	.0200	.0233	.0267	.0300	.0333	.0367
4.25	.0213	.0248	.0283	.0319	.0354	.0390
4.50	.0225	.0263	.0300	.0338	.0375	.0413
4.75	.0238	.0277	.0317	.0356	.0396	.0435
5.00	.0250	.0292	.0333	.0375	.0417	.0458
5.25	.0263	.0306	.0350	.0394	.0438	.0481
5.50	.0275	.0321	.0367	.0413	.0458	.0504
5.75	.0288	.0335	.0383	.0431	.0479	.0527
6.00	.0300	.0350	.0400	.0450	.0500	.0550
6.25	.0313	.0365	.0417	.0469	.0521	.0573
6.50	.0325	.0379	.0433	.0488	.0542	.0596
6.75	.0338	.0394	.0450	.0506	.0563	.0619
7.00	.0350	.0408	.0467	.0525	.0583	.0642
7.25	.0363	.0423	.0483	.0544	.0604	.0665
7.50	.0375	.0438	.0500	.0563	.0625	.0688
7.75	.0388	.0452	.0517	.0581	.0646	.0710
8.00	.0400	.0467	.0533	.0600	.0667	.0733
8.25	.0413	.0481	.0550	.0619	.0688	.0756
8.50	.0425	.0496	.0567	.0638	.0708	.0779
8.75	.0438	.0510	.0583	.0656	.0729	.0802
9.00	.0450	.0525	.0600	.0675	.0750	.0825
9.25	.0463	.0540	.0617	.0694	.0771	.0848
9.50	.0475	.0554	.0633	.0713	.0792	.0871
9.75	.0488	.0569	.0650	.0731	.0813	.0894
10.00	.0500	.0583	.0667	.0750	.0833	.0917

WORKSHEET 1
Lesson 3
Evaluating the Use of the Loan vs. Cash Sale

Assume - Cash price today @ $4.00

- Interest rate or opportunity cost @ 10%
- Interest on loan @ 11 1/2%
- Variable cost approximately .02¢
- Shrink - 1% of value

STORE & LOAN

Cash price today $_____

Add:

Interest on loan +_____

Variable cost +_____

Shrink +_____

Breakeven price in 6 months $_____/bu.

SELL CASH TODAY

Sell cash wheat $_____

Add:

Interest earned +_____

Net returns $_____

WORKSHEET 2
Lesson 3
Evaluating Use of Loan and Farmer Owned Reserve

Options 1 and 2

Assume - Cash price remains at loan levels for three years
- Interest rate on loan @ 11 1/2%
- Interest rate or opportunity cost @ 10%
- Variable cost @ 2 1/4¢ per year
- Storage return @ 26 1/2¢ per year
- Shrink @ 1% of value

OPTION 1 Store for Three Years and Default

Loan $_____

Add:

Storage earned: 36 months +_____

Interest earned: 3 years +_____

Less:

Variable cost -_____

Shrink -_____

Net return after 3 years $_____

OPTION 2 Sell Cash Wheat @ Loan

Sell cash wheat $_____

Add:

Interest earned: 3 years +_____

Net return after 3 years $_____

WORKSHEET 3 156
Lesson 3
Evaluating Use of Loan and Farmer Owned Reserve

Options 3 and 4

Assume - Cash wheat @ $4.00, loan @ $3.00
- Release price ($4.20) reached in 6 months
- Cash wheat in 6 months @ $4.30
- Interest earned or opportunity cost @ 10%
- Interest paid on loan 11 1/2%
- Storage @ 26 1/2¢ per year
- Variable cost @ 2¢
- Shrink @ 1/2% of value = 2¢

OPTION 3: Store and take loan for six months

Loan $_____

Add:
Storage earned: _____ months +_____

Interest earned on loan +_____

Less:
Interest on loan -_____

Opportunity cost -_____

Variable cost -_____

Shrink -_____

Net Gain or Loss +/-_____

Add:
Wheat sold +_____

Net returns $_____

OPTION 4: Sell cash wheat @ $4.00

Sell cash wheat $_____

Add:
Interest earned +_____

Net returns $_____

Visual 1
Lesson 4

A MARKET WHERE FUTURES CONTRACTS ARE BOUGHT AND SOLD

COMMODITY EXCHANGE

1. Public Market
2. Controlled by governing board
3. Prices established through open trading

ELEMENTS OF A CONTRACT

1. Commodity – Live Cattle
2. Price – $69.00/cwt.
3. Quantity – 40,000 lbs.
4. Quality – USDA Choice
5. Place – Par delivery point – Sioux City
6. Time – Month – Mature on the 20th

Visual 3
Lesson 4

CHICAGO BOARD OF TRADE

1. Corn – 5,000 bu. No. 2 yellow
2. Oats – 5,000 bu. No. 2 white
3. Soybeans – 5,000 bu.
4. Wheat – 5,000 bu.

CHICAGO MERCANTILE EXCHANGE

1. Hogs – 30,000 lb. 1, 2, 3, 4, barrows or gilts 200-230 lb.
2. Live Cattle – 40,000 lb. US Choice 1,050 to 1,200 lb. steers
3. Feeders – 42,000 lb. choice and good 500 lb. Average

Visual 5
Lesson 4

MINNEAPOLIS GRAIN EXCHANGE

1. Hard Red Spring Wheat — 5,000 bu.
2. Sunflower 100,000 lb.

KANSAS CITY BOARD OF TRADE

1. Hard Red Winter Wheat 5,000 bu.

MID AMERICA EXCHANGE

1. Corn — 1,000 bu.
2. Oats — 1,000 bu.
3. Hogs — 15,000 bu.
4. Soybeans — 1,000 bu.
5. Wheat — 1,000 bu.

WHO TRADE IN FUTURES MARKETS ?

Hedgers – They trade to lock in a price for their commodities and reduce risk of ownership.

WHO TRADE IN FUTURES MARKETS ?

Speculators – They buy or sell the contracts in the hope of making a profit on the price change.

Visual 10
Lesson 4

COST OF TRADING IN THE FUTURES MARKET

1. Initial Margin – Earnest money
2. Margin Call – Additional money asked for when the market moves against your position.
3. Brokerage Fee

Visual 11
Lesson 4

TRADING IN THE FUTURES MARKET

1. Select a broker you feel comfortable working with
2. Mechanics of trading
    a. Call your broker stating order
    b. Broker calls Minneapolis office, time is recorded, order given a number
    c. Trade goes on the floor
    d. Price stamped out and signaled to rest of world
    e. Confirmations of the trade is back in minutes

FUNCTIONS OF CLEARING HOUSE

1. Collects and maintains margin accounts of every member
2. Guarantees all contracts
3. All cash settlements are done with clearing house
4. Extend no credit to brokers
5. Distribute notices of delivery when due

TYPES OF ORDERS

1. Market Order — Buy or sell with no regard to price
2. Limit Order — Buy or sell within specified time or specified price
3. Stop Order — Initiates order when price moves
   — Uses
   a. Liquidate a position to limit losses
   b. Protect profits
   c. Initiate a new position
4. Market if Touched Order — Executed after market has traded at a specified level

Feeder Cattle Hedging Problems
Lesson 4

OCTOBER 10

MARKET INDICATORS:

Through the first half of next year, cattle and hog prices are expected to remain above year-earlier levels.

Pasture and range conditions in much of the U.S. are good.

Placements have been running very high since last year, with heifers making up a large part of these placements.

Estimated July supply of feeder cattle was 10% below last year.

Reduced feeder supply and strong demand is expected to sustain prices at relatively high levels - yearling feeder steers could sell in the upper 60's in the first half of next year.

Oklahoma City	$63.25
Amarillo	61.75
Kansas City	62.25
Dodge City	64.00

	Per Cwt.
CME August Feeder Cattle Futures are now trading @	$72.57
BASIS	5.00
LOCALIZED PRICE	$67.57

ESTIMATED BREAKEVEN $65.00/cwt.

Should I hedge (sell) my feeder cattle now? _____
Yes-No

If yes, How many contracts? _____
1-5

FEBRUARY 8

MARKET INDICATORS:

Cattle numbers declined for the fourth consecutive year to 5% less than a year ago. Cow numbers declined 5% while yearling heifers for herd replacement decreased 6%.

Potential feeder cattle supply is down 7% from a year ago.

Retail beef prices are expected to increase more than other meats.

Choice fed steer prices should increase this Spring to the mid-$60's.

Large supply of feed grains, while hay and other roughage is adequate.

Oklahoma City	$77.25
Amarillo	80.10
Kansas City	80.26
Dodge City	79.87

	Per Cwt.	
CME August Feeder Cattle Futures are now trading @	$81.70	
BASIS	5.00	
LOCALIZED PRICE	$76.70	
ESTIMATED BREAKEVEN		$65.00/cwt.

Should I hedge (sell) my feeder cattle now? _____
Yes-No

If yes, How many contracts? _____
1-5

APRIL 26

MARKET INDICATORS:

Rising consumer incomes have supported a continued strong demand for beef.

Choice fed steer prices are expected to average near $70 for Spring and Summer quarters.

Beef production through March of this year was down about 9% from last year.

Feedlot placements may be affected by wheat grazing this year.

April 1 feeder cattle inventory was 3-4% smaller than last year.

Oklahoma City	$89.70
Kansas City	89.50
Amarillo	90.26
Dodge City	90.50

	Per Cwt.	
CME August Feeder Cattle Futures are now trading @	$91.77	
BASIS	5.00	
LOCALIZED PRICE	$86.77	
ESTIMATED BREAKEVEN		$65.00/cwt.

Should I hedge (sell) my feeder cattle now? _____ Yes-No

If yes, How many contracts? _____ 1-5

JUNE 6

MARKET INDICATORS:

Retail meat prices are expected to gradually decline from Spring levels.

Strong feeder cattle prices and favorable grazing conditions this year are encouraging herd expansion.

Heifers on feed April 1 were 14% below last year but up 5% from two years ago.

Cattle feeders, faced with high replacement feeder cattle prices, have been unwilling or unable to bid these cattle away from feeder cattle operators. Many will not be sold until grazing supplies diminish later this Summer.

Feeder cattle prices have likely peaked for the year.

Oklahoma City	$78.50
Kansas City	82.00
Amarillo	75.74
Dodge City	78.44

	Per Cwt.	
CME August Feeder Cattle Futures are now trading @	$78.02	
BASIS	5.00	
LOCALIZED PRICE	$73.02	
ESTIMATED BREAKEVEN		$65.00/cwt.

Should I hedge (sell) my feeder cattle now? _____
Yes-No

If yes, How many contracts? _____
1-5

JULY 10

MARKET INDICATORS:

This year's calf crop is expected to be 4% lower than last year.

With ample supply, competitive meat pressure and a reduced demand, the kill will more than likely be reduced.

Placements in June were 13% less than a year ago.

Feeder cattle prices are expected to average near steady with some pressure still expected in late August and early September.

Oklahoma City	$78.60
Kansas City	80.13
Amarillo	79.74
Dodge City	77.58

	Per Cwt.
CME August Feeder Cattle Futures are now trading @	$80.45
BASIS	5.00
LOCALIZED PRICE	$75.45
ESTIMATED BREAKEVEN	$65.00/cwt.

Should I hedge (sell) my feeder cattle now? _____
Yes-No

If yes, How many contracts? _____
1-5

AUGUST 8, 1979
SALE DAY

1. ACTUAL COST	$65.00		
2. SOLD 350 yearlings @		$70.00	
3. OFFSET FEEDER CATTLE futures @		$76.50	
4. ACTUAL BASIS:			$6.50

If you did not hedge, you received $70.00/cwt. for your cattle (#2).

If you did hedge, you received:

	Price*		Number of Contracts Hedged			
October 10 Hedge:	$66.07/cwt.	x	1	_____	= $66.07	_____
February 8 Hedge:	$75.20/cwt.	x	1	_____	= 75.20	_____
April 26 Hedge:	$85.27/cwt.	x	1	_____	= 85.27	_____
June 6 Hedge:	$71.52/cwt.	x	1	_____	= 71.52	_____
July 10 Hedge:	$73.95/cwt.	x	1	_____	= 73.95	_____
August 8 No Hedge:	$70.00/cwt.	x	___	_____	= _____	_____
			5	_____	$372.01	_____

If you hedged 1 contract each month you received an average price $74.40/cwt. ($372.01 ÷ 5)

(*See following page for each calculation)

DIVIDE THE DOLLAR TOTAL BY NUMBER OF CONTRACTS TO GET YOUR AVERAGE PRICE PER CWT. $_____.

Average price _____ - $65.00 (Cost) = _____ profit or loss cwt.

CALCULATIONS

CASH	OCTOBER 10TH HEDGE	FUTURES
Expected Cash $67.57	(-5.00)	Sell Aug. F.C. $72.57
Sold Yearlings 70.00 Futures - 3.93		Offset Hedge 76.50 Loss on Futures $ 3.93
*ACTUAL $66.07/cwt.	(-6.50)	

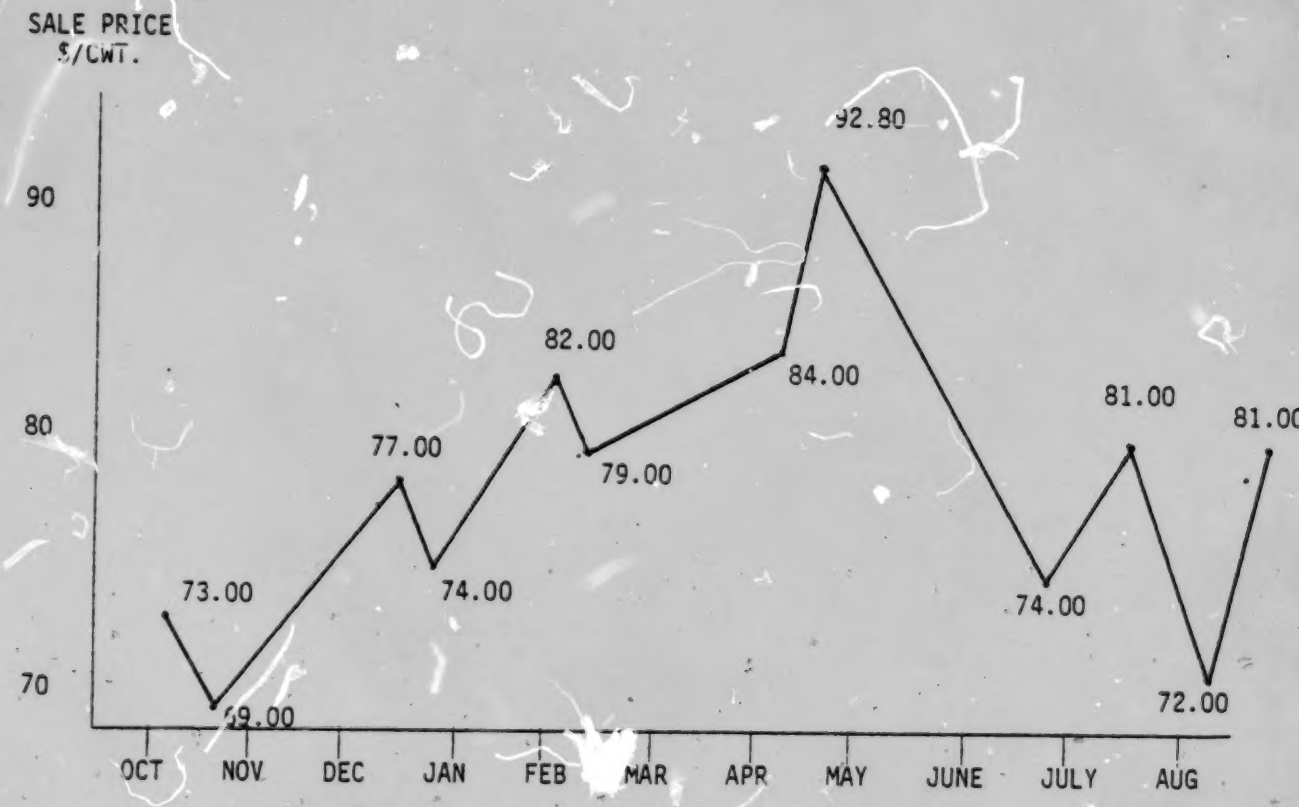
CASH	FEBRUARY 8TH HEDGE	FUTURES
Expected Cash $76.70	(-5.00)	Sell Aug. F.C. $81.70
Sold Yearlings 70.00 Futures + 5.20		Offset Hedge 76.50 Profit on Futures $ 5.20
*ACTUAL $75.20/cwt.	(-6.50)	

CASH	APRIL 26TH HEDGE	FUTURES
Expected Cash $86.77	(-5.00)	Sell Aug. F.C. $91.77
Sold Yearlings 70.00 Futures + 15.27		Offset Hedge 76.50 Profit on Futures $15.27
*ACTUAL $85.27/cwt.	(-6.50)	

CASH		JUNE 6TH HEDGE	FUTURES
Expected Cash $73.02	(-5.00)	Sell Aug. F.C.	$78.02
Sold Yearlings 70.00		Offset Hedge	76.50
Futures + 1.52		Profit on Futures	$ 1.52
*ACTUAL $71.52/cwt.	(-6.50)		

CASH		JULY 10TH HEDGE	FUTURES
Expected Cash $75.45	(-5.00)	Sell Aug. F.C.	$80.45
Sold Yearlings 70.00		Offset Hedge	76.50
Futures + 3.95		Profit on Futures	$ 3.95
*ACTUAL $73.95/cwt.	(-6.50)		

FEEDER CATTLE FUTURES
AUGUST, 1979 CONTRACT



HEDGING

Using the futures market for price protection.

Allows a farmer to lock in a price anytime during the production year.

PEOPLE WHO NORMALLY HEDGE

1. Farmers
2. Grain elevator operators
3. Processors
4. Manufacturers
5. Exporters

REASONS FOR A FARMER TO HEDGE

1. Lock in price range
2. Reduce risk
3. Flexible - option to buy back

DISADVANTAGES OF HEDGING

1. Commodity loss
   a) Especially when the market moves against you.
   b) May require greater hail insurance if market moves against you.
2. Costs of hedging
   a) Need an understanding banker.
3. Requires proper mental attitude toward risk.
4. Basis may move against you.

SHORT HEDGE

Sale or forward pricing hedge.

Cash

April price	$5.00
Harvest Sell	4.00
Less	$1.00

Futures

Sell Sept. wheat	$6.00
Buy back Sept. futures	5.00
Gain	$1.00

Price received for grain:

$4.00 Cash
1.00 Gain futures
$5.00

LONG HEDGE

Purchase of a contract to protect against prices going higher.

Cash

Oct. Price	$75.00
Jan. Buy feeders	85.00
Less	$10.00

Futures

Buy Jan. feeders	$81.50
sell Jan. feeders	91.50
Gain	$10.00

Price paid for feeders:

$85.00	Cash
10.00	Gain futures
$75.00	

Visual 6
Lesson 5

COMPLETE HEDGE

When more than one commodity is traded in the futures market.

Example:

1. Buy feeders
2. Buy corn
3. Sell live cattle

COMPLETE HEDGE

Date	Commodity	Cash	Futures
Nov.	March Corn	$ 3.05	$ 3.70Buys $ 3.70 Buys
	March feeders	80.00	83.50 Buys
	Dec. Live Cattle	71.00	75.00 Sells
March	Corn	$ 3.25 Buys	$ 3.90 Sells
		3.05	3.70
		- .20	+.20
		Actual Cost $3.05	
	Fedd Feeders	$85.00 Buys	$88.50 Sells
		80.00	83.50
		- 5.00	+5.00
		Actual Cost $80.00	
Secember	Live Cattle		
December	Live Cattle	65.00 Sells	69.00 Buy
		71.00	75.00
		-6.00	+6.00
		Actual Selling price $71.00	

BASIS

The difference between your local cash bid and the futures market price for the same delivery period.

Generally refers to present local cash price and the nearest futures delivery month.

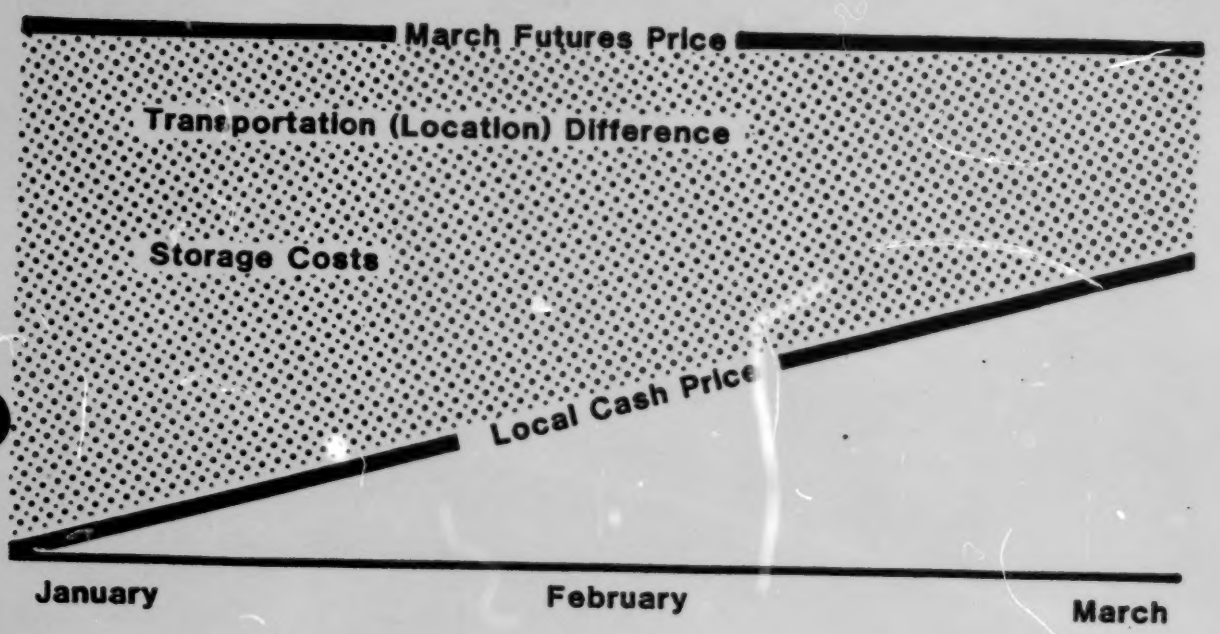
The single most important factor in any hedging transaction.

COMPONENTS OF THE BASIS

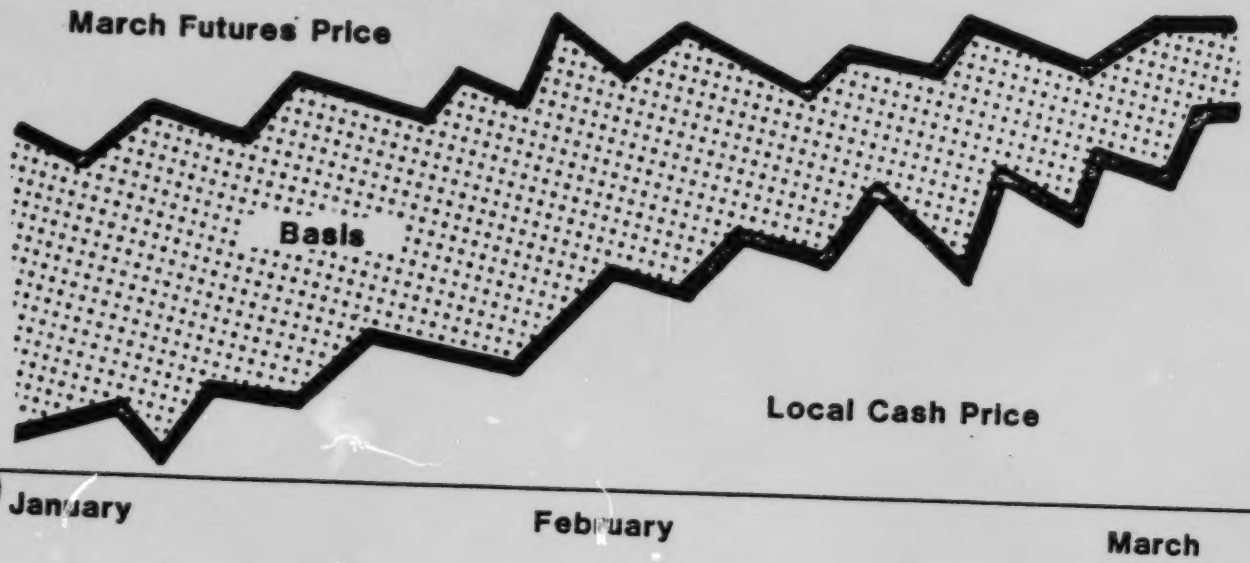
1. Transportation costs
2. Differences between Minneapolis or Chicago cash and futures price.
   a) Storage costs
   b) Handling costs
   c) Sellers profit margin

Visual 10
Lesson 5

EFFECT OF TIME ON BASIS



REALISTIC PICTURE OF BASIS



Visual 12
Lesson 5

REASONS TO UNDERSTAND BASIS AND BASIS PATTERNS

1. Whether and when to store crop
2. When and in what delivery month to hedge
3. Whether to accept or reject a price
4. When to lift a hedge
5. How to turn usual basis into possible profit

Visual 13
Lesson 5

GUIDELINES FOR HEDGING CROP

1. Never sell more than 50% crop until you see it in the field
2. Never hedge 100% of a growing crop regardless of how sure you are
3. Don't sell more than 25% of crop at any one time, unless you are anxious to reduce risk
4. Don't hedge more than 25% of your production the first time you hedge
5. Don't hedge more than one third of crop before it is planted

Key

GRAIN SELLING HEDGE

1. You are a wheat producer and sell a September futures contract at planting time for $5.35. In the fall you deliver the grain to the local elevator and sell it for $4.80 and offsets his hedge (buy futures) for $5.15.

Cash		Futures	
Spring		Spring	$5.35 Sell
Fall	$4.80	Fall	5.15 Buy
		gain	$ .20

The basis at harvest was $ .35

There was a net gain (gain or loss) of $ .20 per bushel in the futures.

The price received for the wheat was $ 5.00 per bushel.

2. You are a sunflower producer who decides to hedge half the expected sunflower crop in August by selling January futures for $13.85. You have 500 acres that are expected to yield 1200 lb/acre.

Cash		Futures	
August		August	$13.85 Sell
January	$12.20 Sold	January	13.40 Buy
			$ .45

The sunflower are delivered January 3 and sold on cash market for $12.20. The futures contract is offset at $13.40.

How many contracts were hedged? 3

What price was received for the hedged sunflowers? $12.65

What price was received for the sunflowers not hedged? $12.20

500 x 1200 = 600,000 lb. x $\frac{1}{2}$ 300,000 = 3 Contracts

$12.20 + .45 = $12.65

Key

GRAIN SELLING HEDGE

3. On July 1 you hedge a contract of wheat by selling on the September futures for $5.15. Your broker required a margin account of $1500 with a minimum maintenance margin requirement of $1250.

a) July 6 September wheat futures closed at $5.18.
Your margin account now contains $ 1500

$5.18
5.15
.03

	Margin Account $1500
(+ or -)	—
Total	1500

$1500
1250
250 ÷ 5000 bu. = 5¢
5¢ change in price for margin call

b) July 8 September wheat futures closed at $5.22.
Your margin account now contains $ 1150

$5.22
5.15
$.07 × 5000 = $350

	Margin Account
Today =	$1500
(+ or -)	- 350
Total	$1150

Your broker would give you a margin call of $350.

	Margin Account
Margin Required =	$1500
Present Balance =	1150
Difference	$ 350

c) July 10 September wheat futures closed at $5.12.
Your margin account now contains $ 2,350

$5.22
5.12
10 × 5000 = $500

	Margin Account
Todays =	$1850
(+ or -)	+ 500
Total	$2350

Lesson 5

KEY

FOR

LIVESTOCK HEDGING PROBLEMS

CONTRACTS:

Feeder Cattle = 42,000 lbs. (about 70 head)

Live Cattle = 40,000 lbs. (about 38 head)

Live Hogs = 30,000 lbs. (about 140 head)

Limit Price Move = $1.50 per hundredweight

Sell Hedges

1. You have hogs that will be ready for market in June and have priced them today by selling a June hog contract.

CASH		FUTURES	
Long (have hogs)		Short June @ $61.50	
June:	$56.00	Buy June @	$59.50
		Gain	$ 2.00

On sale day (in June) hogs are sold for $56/cwt. at a local market and the June hog contract is trading at $59.50.

The basis was -$3.50

There was a net Gain (gain or loss) of $2/cwt. in the futures trade (ignoring commission fees and interest on margin money).

2. You have sold an April hog contract at $59.00/cwt.

CASH		FUTURES	
Long		Short April @	$59.00
April:	$62.00	Buy April @	$64.00
		Loss	$ 5.00

In April, you sell the hogs in the cash market for $62/cwt. The same day, you buy one April contract at $64/cwt.

The basis was -$2.00.

There was a net Loss (gain or loss) of $5/cwt. in the futures trade.

3. Sell two August feeder cattle futures at $88/cwt.

CASH		FUTURES	
Long		Short August @ $88.00 (2 contracts)	
August:	$86.00	Buy August @	$89.00
		Loss	$ 1.00

In August, sell the feeders in the cash market at $86/cwt. The same day, buy two August contracts at $89/cwt.

Basis = -$3.00

Total loss on futures trade = $840

On a per hundredweight basis, the net price received for the feeders by using the futures market to price your product was $85.

Loss on Futures Trade

Loss = $1/cwt.
Contract = 42,000 lbs. or 420 cwts.
Loss per contract = $420

$420 x 2 contracts = $840

Net Price Received

Cash	$86.00
Futures Loss	1.00
Net	$85.00

4. Sell two August feeder cattle futures at $88/cwt.

CASH		FUTURES	
Long		Short August @ $88.00 (2 contracts)	
August:	$80.00	*Buy August @*	*$83.00*
		Gain	*$ 5.00*

In August, sell the feeders locally at $80/cwt. The same day, buy two August contracts at $83/cwt.

Per hundredweight, the net price received for the feeders by using both cash and futures markets = *$85*.

How does this compare to the net price received in the previous problem?

Why?

Net Price Received

Cash	*$80.00*
+ *Futures Gain*	*5.00*
Net	*$85.00*

The net price received through pricing by use of the futures is the same in both problems because the basis was the same ($3.00). Point is that whether the markets go up (as in problem 3) or down (as in problem 4), once the hedge is placed, it is the relationship between the cash and the futures markets (the basis) that affects profitability and not price levels.

5. Yesterday, you sold one September feeder cattle futures contract at $87. The broker required an initial margin account deposit of $1500 with a minimum maintenance requirement of $1200.

   a. If you expect your local market to be $3.00/cwt. less than the futures market price in September (basis = $3 under), your localized price = $84. (87 - 3 = 84)

   b. If, in September, you deliver against the futures market (rather than selling in your local cash market and buying a September futures contract), the price/cwt. you would receive would be $87.

   c. Today, September feeder cattle futures close at $86.50. Your margin account now contains $1,710.

420 cwts.
x .50 cents
$210 Gain

Margin Account	
$1500	
(+ or -)	+ 210
Total	$1,710

   d. If the market moves up the limit tomorrow, your margin account would contain $1,080.

420 cwts.
x $1.50
$630 Loss

Margin Account	
Today =	$1,710
(+ or -)	- 630
Total	$1,080

Your broker would give you a margin call of $420.

Margin Account	
Margin Required =	$1,500
Present Balance =	$1,080
Difference	$ 420

6. As a cattle feeder, you expect to have 40 head of choice fed steers ready for market in June. You estimate your breakeven cost of production to be $70 per hundredweight and have already priced the steers by selling a June live cattle contract at $76.80/cwt.

Information needed to answer the questions that follow (answers on a per cwt. basis):

Short June @ $76.80/cwt.
Estimated Cost of Production $70.00/cwt.
Estimated Basis $3.50/cwt.
Can buy June @ $75.80/cwt.
Cash price in June $71.80/cwt.
Cost of Delivery Against Futures Market (Sioux City, Iowa) $3.00/cwt.

CASH		FUTURES	
Today: Long Cattle		Short June @ $76.80	
June:	$71.80	Buy June @	$75.80
Net Price Received:	$72.80		
Cost of Production:	-$71.00	Gain	$ 1.00
Net Profit:	$ 1.80		

"Localized" futures price (expected net price per cwt. on cattle priced today for cash sale in June) = $73.30 and expected net profit = $3.30.

Short June	$76.80
Estimated Basis	- 3.50
Localized Price	$73.30
Estimated Cost	70.00
Expected Profit	$ 3.30

6. (continued)

If the cattle are sold on the local cash market in June and you offset your futures position by buying a June contract at $/5.80/cwt. (actual cost of production = $71.00/cwt.):

The actual basis would be -$4.00.

Actual net price received would be $72.80.

Actual net profit would be $1.80.

Expected profit was $3.30 per cwt. while realized profit was $1.80. The difference ($1.50) between expected and realized profit results from the cost of production being $1.00/cwt. higher than estimated and the basis being $.50/cwt. wider than expected.

If the cattle were delivered against the futures market instead of sold in the cash market (actual cost of production = $71/cwt.):

The actual net price received would be $76.80.

Actual net profit would be $2.80.

NET PROFIT

Price Received	$76.80
Cost of Delivery	- 3.00
Cost of Production	- 71.00
Profit	$ 2.80

The profit in this case would be $1/cwt. more than selling locally and buying futures because the cost of delivering against the futures market is $1/cwt. less than the basis.

7. Sell one July hog futures at $59.20.
   Estimated basis = $2.50.
   Cost of production = $42.00/cwt.
   July cash market = $56.00
   Buy July futures at $58.00

Expected net price = $56.70
Realized net price = $57.20
Realized basis = -$ 2.00
Realized net return $15.20

CASH		FUTURES	
		Sell July @ $59.20	
July:	$56.00	Buy July @ $58.00	
Futures Gain:	1.20		
Net Price:	$57.20	Gain	$ 1.20
Cost of Production:	- 42.00		
Profit:	$15.20		

Futures	$59.20
Estimated Basis	- 2.50
Localized Price	$56.70

8. You are feeding heifers for slaughter that will be ready for market in June.

Today's June live cattle futures =	$77.00
Expected difference (in June) between cash and futures =	$ 3.50
Expected difference between fed steers and fed heifers =	$ 1.50
Expected cost of production =	$67.00

Can you hedge? YES (but would not have option of delivery against futures market)

Expected basis = $5.00 ($3.50 + $1.50)

Expected profit if you could hedge $5.00

Expected Profit

June Futures		$77.00
Basis	-	5.00
Localized Price		$72.00
Cost of Production	-	67.00
Expected Profit		$ 5.00

Buy Hedges

9. As a cattle feeder, you intend to purchase feeders in April and have chosen to price the animals now by buying April feeder cattle futures at $83. The estimated April basis is $4.00.

The net price you expect to pay for feeders in April, through hedging is $79.00. ($83.00 - $4.00)

If, in April, feeders are purchased locally for $86 and April futures are sold for $91,

Actual basis would be $5.00

Net price paid would be $78.00

The basis was wider than you had originally expected it to be. As a result, you are better off than you had originally expected (better off, worse off)

by $ 1.00 per cwt.

CASH		FUTURES	
Short		Long April @ $83.00	
April:	$86.00	Sell April @ $91.00	
Futures Gain:	- 8.00		
Net Price:	$78.00	Gain	$ 8.00

10. Buy March feeder cattle futures at $86.50.

Estimated basis = $3.50
Actual basis = $3.00

In March, sell March futures at $88.00.

CASH		FUTURES	
Short (need feeders)		Long March @ $86.50	
March: Buy feeders @	$85.00	Sell March @ $88.00	
Gain/Loss:	- 1.50	Gain	$ 1.50
Net Purchase Price	$83.50		

Expected purchase price $83.00 ($86.50 - $3.50)

Actual net purchase price $83.50 (basis was 50¢ narrower than anticipated!)

Buy Feeders in March

Sell March Futures	$88.00
Actual Basis	- 3.00
Cash Purchase Price	$85.00

11. Buy March feeder cattle futures at $86.50

Estimated basis = $2.00
Actual basis = $3.00

In March, sell March futures @ $85.00

CASH		FUTURES	
Short		Long March @ $86.50	
March: Buy feeders @	$82.00	Sell March @ $85.00	
Gain/Loss:	+ 1.50	Loss	$ 1.50
Net Purchase Price	$83.50		

Expected purchase price $84.50 ($86.50 - $2.00)

Actual net purchase price $83.50 (basis was $1.00 wider than anticipated)

Buy Feeders in March

Sell March Futures	$85.00
Actual Basis	- 3.00
Cash Purchase Price	$82.00

12. As a stocker-operator, you are expecting to purchase yearling steers at 600 lbs. in April for your pasture season and later sale as long yearlings at about 800 lbs. in August.

Buy April feeder cattle futures @ $84.00

August feeder cattle futures are trading @ $86.00

Estimated April basis for 600 lb. steers = $3.00

Estimated August basis for 800 lb. steers = $8.00

Estimated breakeven sales price for 800 lb. steers = $80.00

Estimated net purchase price in April = $81.00 ($84.00 - $3.00)

If you were to also price your August sales at this time, you would be "locking in" an estimated net sales price of $78.00, and an estimated net Loss (profit/loss) of $2.00/cwt.

August Futures	$86.00
Estimated Basis	- 8.00
Localized Price	$78.00
Cost of Production	- 80.00
Loss	- $ 2.00

In April:

Buy feeders in cash market @ $92
Sell April futures @ $95
August feeder cattle futures are now trading @ $96

CASH		FUTURES	
Short		Buy April @	$84.00
April: Buy Feeders	$92.00	Sell April @	$95.00
Gain on Futures	- 11.00	Gain	$11.00
Net Purchase Price	$81.00		

Net purchase price of feeders in April = $81.00

Estimated Profit (profit/loss) if August sales were priced now = $8.00/cwt.

If August Sales Were Priced Now

August Futures	$96.00
Estimated Basis	- 8.00
Localized Sales Price	$88.00
Estimated Cost of Production	- 80.00
Estimated Profit	$ 8.00

FACTORS TO CONSIDER IN REACHING A MARKETING DECISION

1. Cost of production
2. Fundamental analysis
3. Technical or chart analysis
4. Seasonal and cylical trends
5. Basis following
6. Cash flow needs
7. Others

Visual 2
Lesson 6

HOW IS COST OF PRODUCTION DETERMINED?

1. Fixed costs
2. Variable costs
3. Opportunity costs

USDA STOCKS REPORT

SUPPLY
Beginning Carryover Production
Imports Projected Total

DEMAND
Domestic Use and Export Demand:
Feed Food Seed
Export Projected Total

DIFFERENCE:
Projected (estimated) Carryover

Visual 9
Lesson 6

OTHER FUNDAMENTAL CONSIDERATIONS

a. Interest rate (short run effect)

b. US trade policies

c. New technology

d. Seasonality patterns of a commodity

e. Transportation

KEEPING UP WITH FUNDAMENTAL NEWS

a. USDA Supply/Demand Reports

b. Planting Intentions-Reports

c. Export Reports (Inspections for Export)

d. Pig Crop Report

e. Cattle on Feed Reports

POPULAR AG MARKETING NEWS SERVICES

A. Profarmer

B. Topfarmer

C. Farmers Grain and Livestock

D. Doanes

E. The Brock Report

F. Ag. Marketing Service

SCALE UP SELLING STRATEGY

Two assumptions are;

1—wants all 8000 bu. of wheat sold by end of year

2—Seller has 4 months to sell the wheat

Example:

Sept. 15	3.75	2000
Oct. 15	4.00	2000
Nov. 15	4.25	2000
Dec. 15	4.50	2000
Thus—Average	4.12½	8000

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MARGIN PROBLEMS

PROBLEM 1

Short Trade - Price Decline

March 1	Sell 5,000 bu. of	_____	September wheat @ $4.00 margin deposit	$1,000.00
July 10	Buy 5,000 bu. of	_____	September wheat @ $ 3.80 gain in futures 20¢ x 5,000 bu.	= $1,000.00
			Brokers Commission	- $ 50.00
			Account Balance July 10	$1,950.00

PROBLEM 2

Short Trade - Price Rise

March 1	Sell 5,000 bu. of	_____	September wheat @$4.00 margin deposit	$1,000.00
			Additional margin	600.00
July 10	Buy 5,000 bu. of	_____	September wheat @$4.20 loss in futures 20¢ x 5,000 bu.	- $1,000.00
			Brokers Commission	- $ 50.00
			Account Balance July 10	$ 550.00

PROBLEM 3

Long Trade - Price Rise

August 10	Buy 5,000 bu. of	_____	March wheat @ $4.15 margin deposit	$1,000.00
Dec. 20	Sell 5,000 bu. of	_____	March wheat @ $4.30 gain in futures 15¢ x 5,000 bu.	= $ 750.00
			Brokers Margin	- $ 50.00
			Account Balance December 20	$1,710.00

PROBLEM 4

Long Trade - Price Decline

August 10	Buy 5,000 bu. of	_____	March wheat @ $4.15 margin deposit	$1,000.00
			Additional Margin	600.00
Dec. 20	Sell 5,000 bu. of	_____	March wheat @ $4.00 loss in futures 15¢ x 5,000 bu.	- $ 750.00
			Brokers Commission	- $ 50.00
			Account Balance Dec. 20	$ 810.00

HEDGING EXAMPLES AND EXERCISES

Pre-Planting On Planting Period Hedge

In the following examples, assume a 30¢ price differential between the Minneapolis future and the local elevator price for 14% protein wheat is normal. This is the local basis.

A. Perfect Hedge - Declining Market

On April 1, the Minneapolis September wheat future is $3.20, thus the anticipated local elevator price for 14% protein would be $2.90.

	Cash Market		Futures Market		Basis
April 1	Estimated Harvest Price	$2.90	Sell Sept. Future	$3.20	-.30
Sept. 1	Sell Wheat	$2.50	Buy Sept. Future	$2.80	-.30
		-.40		+.40	

- Net sale price to producer is $2.90 less commission fee.

In this example, the producer received 40¢ less than he anticipated at planting time in the local cash market but he gained 40¢ in the future market. This is an example of a perfect hedge, i.e., cash and futures prices moved together exactly.

B. Perfect Hedge - Rising Market

	Cash Market		Futures Market		Basis
April 1	Estimated Harvest Price	$2.90	Sell Sept. Future	$3.20	-.30
Sept. 1	Sell Wheat	$3.40	Buy Sept. Future	$3.70	-.30
		+.50		-.50	

- Net sales price is $2.90 less commission fee.

C. Imperfect Hedge - Declining Market

	Cash Market		Futures Market		Basis
April 1	Estimated Harvest Price	$2.90	Sell Sept. Future	$3.20	-.30
Sept. 1	Sell Wheat	$2.50	Buy Sept. Future	$2.90	-.40
		-.40		-.30	

- Net sales price is $2.80 less commission fee.
- This is an imperfect hedge. (Cash and futures did not move together exactly. The basis widened 10¢.)

Growing Season Hedge

The growing season hedge is the same as the planting hedge except you price your grain sometime during the growing season at a price you are satisfied with.

A. Perfect Hedge - Rising Market

	Cash Market		Futures Market		Basis
June 1	Estimated Harvest Price	$3.00	Sell Sept. Future	$3.30	-.30
Sept. 1	Sell Wheat	$3.30	Buy Sept. Future	$3.60	-.30
		+.30		-.30	

- Net sale price was $3.00 which the producer locked in June 1.

Storage Hedge

A. Imperfect Hedge - Declining Market

	Cash Market		Futures Market		Basis
Sept. 1	Cash price is $3.00 but store instead.		Sell Dec. Future	$3.40	-.40
Dec. 1	Sell	$2.90	Buy Dec. Future	$3.20	-.30
		-.10		+.20	

- Gain 10¢ by a change in the basis. Earned 10¢ carrying charge.
- Net price December 1 was $3.10.

B. Imperfect Hedge - Rising Market

	Cash Market		Futures Market		Basis
Sept. 1	Cash price is $3.00 but store instead.		Sell Dec. Future	$3.40	-.40
Dec. 1	Sell	$3.20	Buy Dec. Future	$3.50	-.30
		+.20		-.10	

- Gained 10¢ by a change in the basis.
- Net price December 1 was $3.10.

Feed Supply Hedge

A. Perfect Hedge - Rising Market

	Cash Market		Futures Market		- s
Oct. 1	Cash price $2.00				
	Estimated local cash March 1	$2.10	Buy March Future	$2.40	-.30
Mar. 1	Buy cash corn	$2.40	Sell March Future	$2.70	-.30
		-.30		+.30	

- Net cost of corn = $2.10. The producer protected himself from price change and paid 10¢ storage.

Problems

1. Pre-Planting Hedge

Assume:

a. 30¢ basis.
b. March 1 - Sell September fut[illegible] @ $3.20
c. September 1 - Buy September futures @ $3.00
d. September 1 - Cash price at the local elevator $2.70.
e. Farmer hedges 5,000 bushels.
f. Commission - $40/round lot
g. Initial margin requirement is $1,000/round lot and maintenance margin is $600.

Work the problem.

	Cash Market		Futures Market	Basis
Mar. 1	Est. harvest price @ $2.90		Sell Sept. @ $3.20	-30
Sept. 1	Sell @ $2.70		Buy Sept. @ $3.00	-30
			+ .20	

What is the farmers net sales price? $ 2.90 (this ignores commission and interest on margin account)

Was the hedge successful? yes - The hedge produced exactly what the producer decided was satisfactory on March 1.

Were there any additional margin calls? No

How much was the commission? $40

2. Pre-Planting Hedge

Assume:

a. 30¢ basis.
b. March 1 - Sell September future @ $3.20.
c. September 1 - Buy September future @ $4.00
d. September 1 - Sell cash wheat at local elevator for $3.70.
e. Assume same margin requirements and commissions as in problem one.

	Cash Market	Futures Market	Basis
Mar. 1	Est. harvest price @ $2.90	Sell Sept. @ $3.20	-30
Sept. 1	Sell @ $3.70	Buy Sept. @ $4.00	-30
		- .80	

What is the farmers net sales price? $ 2.90 (ignoring commission interest on margin account)

Was the hedge successful? yes

How much additional margin was required? 4,000 per contract

3. Growing Season Hedge

Assume:

a. Producer expects to produce 20,000 bushels Hard Red Spring and hedges one-half.
b. The producers knows his historical harvest basis is .35 under.
c. June 1 - Sells 10,000 bushels September future @ $3.50.
d. September 1 - Sells 10,000 bushels cash wheat @ $3.00.
e. September 1 - Buys 10,000 bushels September future @ $3.40.
f. Use same margin requirements and commissions as above.

	Cash Market	Futures Market	Basis
June 1	Est. harvest price @ $3.15	Sell 10 Sept. @ $3.50	-.35
Sept. 1	Sell 10,000 @ $3.00	Buy 10 Sept. @ $3.40	-.40
		+ .10	

What was the producers net sales price? $ 3.10

What was the September 1 basis? -.40

Was the hedge better than not having a hedge? yes by .10

Were there any additional margin calls? no

What was the commission fee? $80

4. Storage Hedge

Assume:

a. 5,000 bushels.
b. September 1 - Cash price at harvest $3.00.
c. September 1 - March futures price $3.42 and the producer knows his historical March 1 basis is .20 under so he decides to hedge and earn a storage income.
d. March 1 - Cash price $2.95.
e. March 1 - March futures $3.20.
f. Use same margins and commissions as above.

	Cash Market	Futures Market	Basis
	Cash price $3.00		
Sept. 1	Est. March 1 cash @ $3.22	Sell 5 March @ $3.42	-.20
Mar. 1	Sell 5,000 bu. @ $2.95	Buy 5 March @ $3.20	-.25
		+ .22	

What was the net sales price? $ 3.17

How much did the storage hedge make per bushel? .17

How much margin would this contract require? $1,000

5. Other

Assume:

a. At harvest sell cash wheat at local elevator for $3.00.
b. September 15 - Buy 50,000 bushels March wheat at $3.30 per bushel.
c. February 15 - Sell 50,000 bushels March wheat at $3.20.
d. Use same margins and commissions as above.

	Cash Market	Futures Market	Basis
Sept. 15	Sell @ $3.00	Buy 50 Mar. @ $3.30	---
Feb. 15		Sell 50 Mar. @ $3.20	
		- .10	

How much did the farmer make or lose on this transaction? $ .10/bu.

What was the initial margin requirement? 10,000 (10 contracts x $1,000 = $10,000)

Were there any additional margin calls? yes If so how much? one for $4,000
.08/bu. x 50,000 = $4,000

What was the commission fee? $400

Is this a true hedge? no If not, why not? The farmer did not have equal and offsetting positions in both markets.

HEDGING PROBLEMS

Minneapolis Wheat

WORK THE PROBLEMS IN THE SPACE PROVIDED

1. When the Minneapolis basis went from even on September 15, to 23 over on November 15, what could this do to a hedge?

Would the 1978-79 crop year have been a good year to hedge wheat in the Minneapolis market: Why?

2. What would be the result if you hedged wheat in the Minneapolis market on September 1 and then lifted it December 15?

Was 1977-78 a good year to hedge wheat in the Minneapolis market? Why?

3. What would be the result if you placed a hedge on wheat September 1, 1976 and lifted it November 15? February 15?

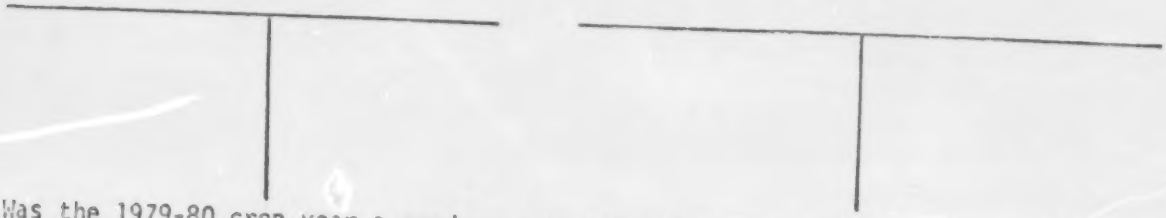
Was 1976-77 a good year to hedge wheat in the Minneapolis market? Why?

4. What would be the result if you placed a hedge on September 1 and then lifted it November 1? December 1?

Would there have been a better time to lift this hedge? If so, when?

Was the 1975-76 crop year a good one to hedge in the Minneapolis market?

5. What would have been the result if you placed a hedge on September 1, 1979 and then lifted the hedge on November 15, 1979? May 1, 1980?



Was the 1979-80 crop year a good year to hedge in the Minneapolis market?

6. Based on the last five years, what is your estimate of the Minneapolis basis for May 1, 1981?

Minneapolis Wheat

WORK THE PROBLEMS IN THE SPACE PROVIDED

1. When the Minneapolis basis went from even on September 15, to 23 over on November 15, what could this do to a hedge?

	Cash		Future		B
Sept. 15	Est.	3.17	Sell	3.17	0
Nov. 15	Sell	3.37	Buy	3.14	+23
		+ .20		+ .03	+23

Would the 1978-79 crop year have been a good year to hedge wheat in the Minneapolis market: Why?

Yes Basis narrowed.

2. What would be the result if you hedged wheat in the Minneapolis market on September 1 and then lifted it December 15?

	Cash		Future		
Sept. 1	Buy	2.64	Sell	2.50	+14
Dec. 15	Sold	2.85	Buy	2.74	+11
		+.21		-.24	- 3

Was 1977-78 a good year to hedge wheat in the Minneapolis market? Why?

3. What would be the result if you placed a hedge on wheat September 1, 1976 and lifted it November 15? February 15?

Cash		Futures		Basis
Sept. 1	3.53	Sell	3.56	-3
Now sell	3.15	Buy	2.83	+32
	-.38		+.73	+35
3.88				

Cash		Futures		Basis
Sept. 1	3.53	Sell	3.56	-3
Feb. 15	3.06	Buy	3.01	+1
	-.47		+.55	+8
$4.08				

Was 1976-77 a good year to hedge wheat in the Minneapolis market? Why?

4. What would be the result if you placed a hedge on September 1 and then lifted it November 1? December 1?

Cash		Futures		Basis
Est.	4.45	Sell	4.63	-18
Sell	4.23	Buy	4.42	-19
			+.21	-1

Cash		Futures		Basis
Sept. Est.	4.45	Sell	4.63	-18
Dec. Sell	4.05		4.14	- 9
	-.40		+.49	+ 9
$4.54				

Would there have been a better time to lift this hedge? If so, when?

Was the 1975-76 crop year a good one to hedge in the Minneapolis market?

5. What would have been the result if you placed a hedge on September 1, 1979 and then lifted the hedge on November 15, 1979? May 1, 1980?

Cash		Futures	Basis
Sept. 1 Est.	4.32	Sell 4.38	-6
Sell	4.30	Buy 4.27	+3
	4.41	+.11	+9

Cash		Futures	Basis
Sept. 1	4.32	4.38	-6
May 1	4.11	3.92	+19
	4.57		+25

Was the 1979-80 crop year a good year to hedge in the Minneapolis market?

6. Based on the last five years, what is your estimate of the Minneapolis basis for May 1, 1981?

+ 6 15
19 11
22

HEDGING PROBLEMS

for

Someplace, North Dakota

1a. On September 19, 1973, wheat harvest is finished. The wheat is in the local elevator. The farmer didn't want to sell at $4.51 because he didn't want the income, but he wanted some assurance he wouldn't take less for his wheat in January. What would have been the result if on September 19, when cash wheat was $4.51, the farmer would have sold a May future @ $4.90. Then on January 9 bought back the future adn sold the cash wheat?

Cash		Future		Basis
Sept. 19 cash wheat value	$_____	Sold Mpls. May future	@ $_____	
Jan. 9 sold wheat	$_____	Bought Mpls. May future	@ $_____	
Gain or Loss		Gain or Loss		

What price did he get for his wheat? $_____

What price would he have received had he not hedged? $_____

b. What would have been the result if he had held the hedge until May 1?

Cash	Future	Basis
Sept. 19		
May 1		

2. On November 6, 1974, farmer Smith notices that cash wheat at the local elevator is $5.23 for 14% protein. He also notices that the basis is 46¢ under, which is unusually wide. Last year he remembers that the May basis narrowed to about 15¢ under by mid April. If this would happen again, he could pick up about 30¢ storage with very little risk.

What would be the result if Mr. Smith hedged on November 6 and lifted the hedge on April 16?

Cash		Future	Basis
November 6 wheat value	$_____		
April 16 sold	$_____		
Gain or Loss		Gain or Loss	

What did he get for his wheat? $_____

What price would he have received had he not hedged? $_____

3. On March 1, 1976, farmer Smith notices that the September future is $4.30. He knows his local harvest basis has ranged from as wide as 50¢ under in 1973 to as narrow as even on August 30, 1974, but normally it is in the range of 30¢ under. At 30¢ under, he knows he can "lock in" about $4.00 locally for his wheat. What is the outcome if farmer Smith initiates a hedge at $4.30 on March 1, 1976, and lifts the hedge on September 7, 1976?

Cash	Future	Basis
March 1, 1976		
Sept. 7, 1976		

What price did he receive for his wheat that he hedged? $_____

4a. On July 15, 1973, farmer Smith notices that the September future is $3.40. With a 30¢ basis he can "lock in" about $3.10 for his new crop wheat. Wheat prices have been going up, but these prices are better than they have been in years, so he decides to hedge part of his crop. What is the outcome if he lifts the hedge on September 4?

Cash	Future	Basis
July 15, 1973		
Sept. 4, 1973		

b. What is the outcome if he lifts his hedge on September 13?

Cash	Future	Basis
July 15, 1973		
Sept. 13, 1973		

HEDGING PROBLEMS 227

for

Someplace, North Dakota

1a. On September 19, 1973, wheat harvest is finished. The wheat is in the local elevator. The farmer didn't want to sell at $4.51 because he didn't want the income, but he wanted some assurance he wouldn't take less for his wheat in January. What would have been the result if on September 19, when cash wheat was $4.51, the farmer would have sold a May future @ $4.90. Then on January 9 bought back the future adn sold the cash wheat?

Cash		Future		Basis
Sept. 19 cash wheat value	$ 4.51	Sold Mpls. May future	@ $ 4.90	-39
Jan. 9 sold wheat	$ 5.00	Bought Mpls. May future	@ $ 5.12	-12
Gain or Loss		Gain or Loss		

What price did he get for his wheat? $_____

What price would he have received had he not hedged? $_____

b. What would have been the result if he had held the hedge until May 1?

Cash			Future		Basis
Sept. 19	Held	4.51	Sell	4.90	-39
May 1	Sold	3.70	Buy	3.81	-11
				-1.09	+28

2. On November 6, 1974, farmer Smith notices that cash wheat at the local elevator is $5.23 for 14% protein. He also notices that the basis is 46¢ under, which is unusually wide. Last year he remembers that the May basis narrowed to about 15¢ under by mid April. If this would happen again, he could pick up about 30¢ storage with very little risk.

What would be the result if Mr. Smith hedged on November 6 and lifted the hedge on April 16?

Cash		Future		Basis
November 6 wheat value	$ 5.23	Sell	5.69	-46
April 16 sold	$ 4.00	Buy	4.05	-5
Gain or Loss	- 1.23		+ 1.64	+41
			Gain or Loss	

What did he get for his wheat? $ 5.64

What price would he have received had he not hedged? $_____

3. On March 1, 1976, farmer Smith notices that the September future is $4.30. He knows his local harvest basis has ranged from as wide as 50¢ under in 1973 to as narrow as even on August 30, 1974, but normally it is in the range of 30¢ under. At 30¢ under, he knows he can "lock in" about $4.00 locally for his wheat. What is the outcome if farmer Smith initiates a hedge at $4.30 on March 1, 1976, and lifts the hedge on September 7, 1976?

Cash		Future		Basis
March 1, 1976	4.00	Sell Sept.	4.30	-30
Sept. 7, 1976	3.23	Buy	3.47	-24
			+ .83	+6

What price did he receive for his wheat that he hedged? $4.06

4a. On July 15, 1973, farmer Smith notices that the September future is $3.40. With a 30¢ basis he can "lock in" about $3.10 for his new crop wheat. Wheat prices have been going up, but these prices are better than they have been in years, so he decides to hedge part of his crop. What is the outcome if he lifts the hedge on September 4?

Cash			Future		Basis
July 15, 1973		3.10	Sell	3.40	-30
Sept. 4, 1973	Sell	3.93	Buy	4.43	-50
				-1.03	-20

b. What is the outcome if he lifts his hedge on September 13?

Cash		Future		Basis
July 15, 1973	3.10	Sell	3.40	-30
Sept. 13, 1973	4.40	Buy	4.68	-28
			-1.28	+ 2

Handout 1
Lesson 6

YOUR MARKETING STRATEGY

Marketing:

1. My marketing "strategy" is as follows: (When and Why I sell grain or lvstk)

   a)

   b)

   c)

   d)

   e)

2. I would be happy with the following prices on the following products:

   a) Durum:

   b) HRSW:

   c) Old Crop Sunflowers:
      New Crop Sunflowers:

   d) Barley:

   e) Feeder Calves:

   f) Hogs:

Handout 4
Lesson 6

230

1000 acres
50 cows
750 cropped acres
250 acres pasture
1/2 HRSW
1/2 Sunflowers

CASH FLOW REQUIREMENTS

From April 1, 1981 to End of crop year.

I. Operating Expenses Fert, Chemical, Seed, Fuel, etc. 40,000 *

II. Short Term Principal

A)	1st Nat'l. Bank	5,000
B)		
C)		
D)		
		*

III. Long Term Debt Service (Interest included)

A)	FHA	32,000
B)		
C)		
D)		
		*

IV. Family Living Expense 16,000

TOTAL 93,000

V. Non - Crop Income Total 17,000

A) Livestok Income

1) Beef cow - 50 cows - @ 3.00 - 15,000
2)
3)

B) Non-farm income: Misc. 2,000

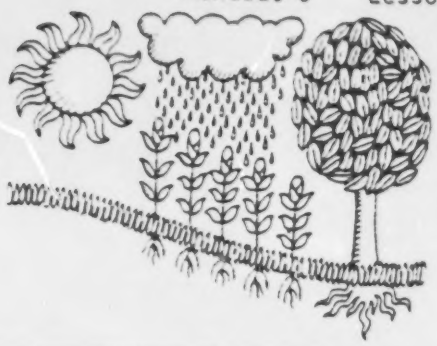
VI. Balance of Cash Flow Required from Crop Production: 76,000

A) Cash required per operator share, cropped acre = 101

B) Break even yields at certain price levels:

$ 101	/A. divided by	$ 4.00/bu. =	25.3	yield
$ 101	/A. divided by	$ 3.50/bu. =	28.9	yield
$ 101	/A. divided by	$11.00/cwt =	918#	yield
$ 101	/A. divided by	$10.00/cwt =	1010#	yield

Handout 6 Lesson 6



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WEEKLY WEATHER AND CROP BULLETIN

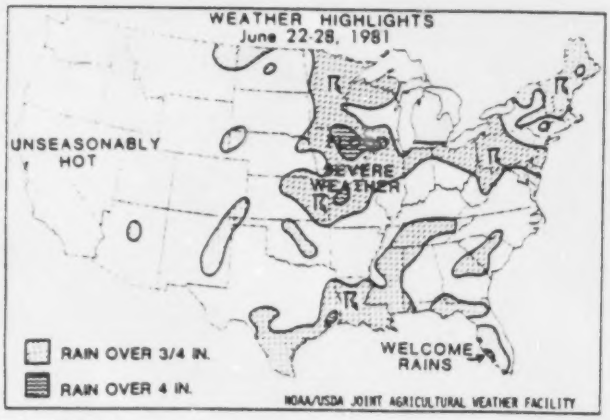
U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration, National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
Economics and Statistics Service
World Food and Agricultural Outlook and Situation Board

Volume 68, No. 26 | Washington, D.C. | June 30, 1981

National Weather Summary

June 22-28, 1981



HIGHLIGHTS: Most of the Nation had rain -- even parts of the southern Plateau and southwestern desert -- as tropical moisture moved out of Mexico. Rains were very heavy over parts of Iowa, Missouri, Florida, and southeast Texas, causing local flooding. Most of the severe weather was confined to the north central States. Unusually hot dry weather sapped moisture from rangeland and forests in California through the northern Plateau. The unseasonal warmth also extended into the central Plains and parts of the Southeast. Subnormal temperatures persisted across the Great Lakes, northern Rockies, and south Texas.

MONDAY...A stormy low pressure frontal system stretched from New England to north Texas, producing moderate rains and several tornadoes. Tropical moisture streamed into eastern New Mexico to Kansas and dumped scattered heavy rains. Some homes and crops were flooded in central Kansas. Thundershowers dotted the Gulf Coast and northern tier of States as well as the Pacific Northwest. Very hot temperatures dominated Southern States, topping 110° in the Southwest and around 100° in northern California and from Alabama to the Carolinas. Record highs were tied at some New Mexico sites.

TUESDAY...The cold front moved into the Southeast followed by high pressure which brought peaceful weather to the Northeast. Meanwhile, a frontal system began developing over the central and northern Plains with scattered thunderstorms and a few tornadoes. The activity increased during the evening. High pressure moved into the Pacific Northwest and broke the rainy pattern. Heavy thunderstorms formed along the central gulf coast and produced tornadoes and large hail over parts of southern Louisiana. Southern States continued hot while pleasant afternoon temperatures in the sixties and seventies prevailed over the extreme North.

WEDNESDAY...Numerous thunderstorms ahead of the slow-moving front poured extremely heavy rains over much of Iowa last night and early morning. Up to 8 inches of rain in the central part of the State locally flooded cities and cropland and sent some rivers over their banks. Hail, high winds, and a few tornadoes caused additional damage. Thundershowers popped up along the gulf coast and in the Southeast during the afternoon. The desert Southwest continued hot; Blythe California had 115°, while the extreme northern States only reached the pleasant 70s. By evening, severe weather began developing over the Midwest and showers spread into the Northeast.

THURSDAY...Widespread heavy rains, triggered by a cold front, advanced into Missouri and Illinois during the morning and over much of the Northeast later in the day. Heaviest rainfall, up to 4 inches, fell very quickly, flooding some western parts of Kansas and Illinois. Thundershowers formed ahead of the front over the South and extended westward into central Arizona. A fair high pressure system continued over the northern Plains with temperatures in the seventies and eighties.

FRIDAY...A cold front pushed through the Southeast, triggering scattered showers along the gulf coast. Moist, unstable air supported numerous showers across South Texas while showers lingered over New England. High pressure advanced into the western Great Lakes, drying to soggy fields. Only a few showers dotted the rest of the nation except in the central Plains where another round of scattered heavy showers developed early in the morning and continued throughout the day. Another cold front moved through the Northwest.

SATURDAY...Cool high pressure settled over the Appalachians and low temperatures dipped into the forties in many northeastern States. A front moving through the northern Rockies spread rains as far east as the Dakotas. Scattered showers developed across the mid and upper Mississippi Valley, along portions of the gulf

(Continued on page 24)

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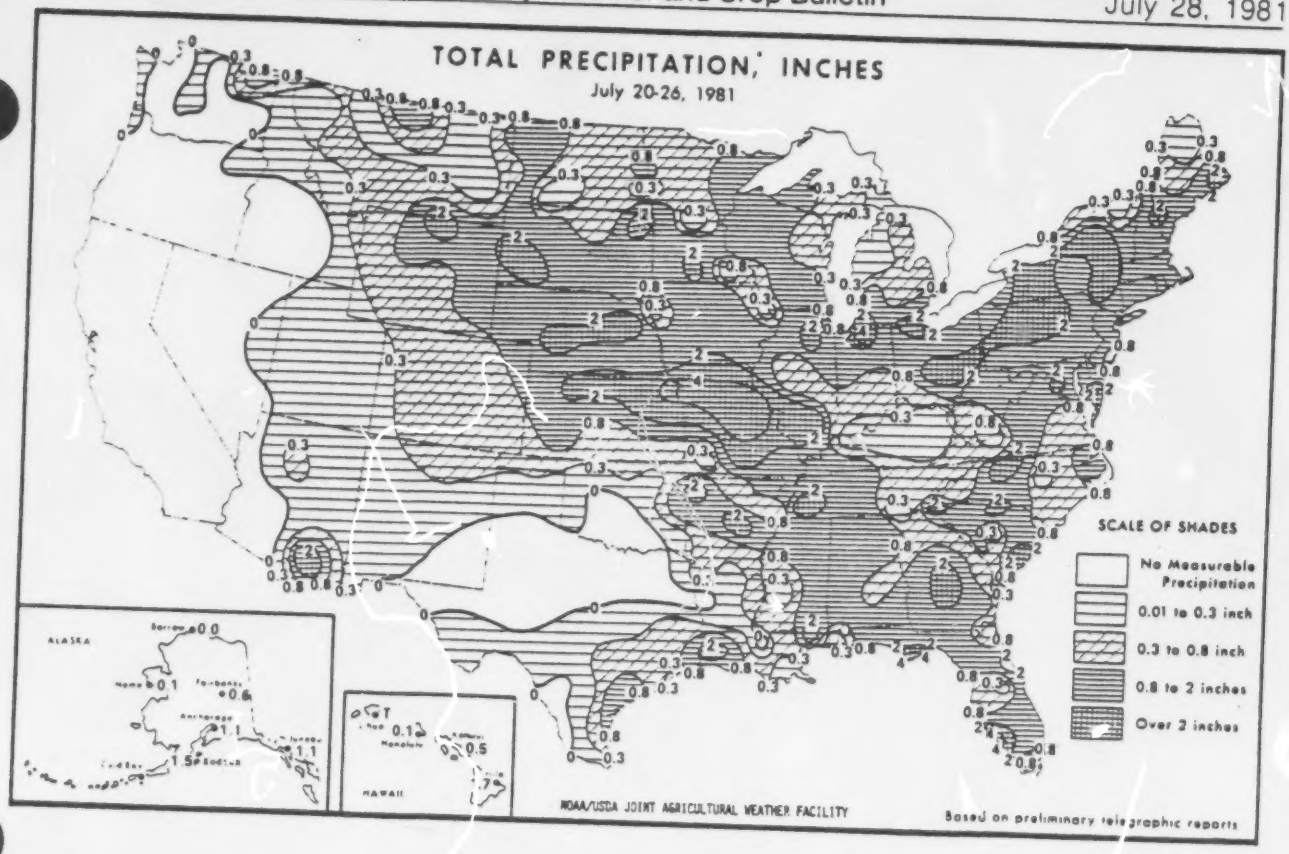
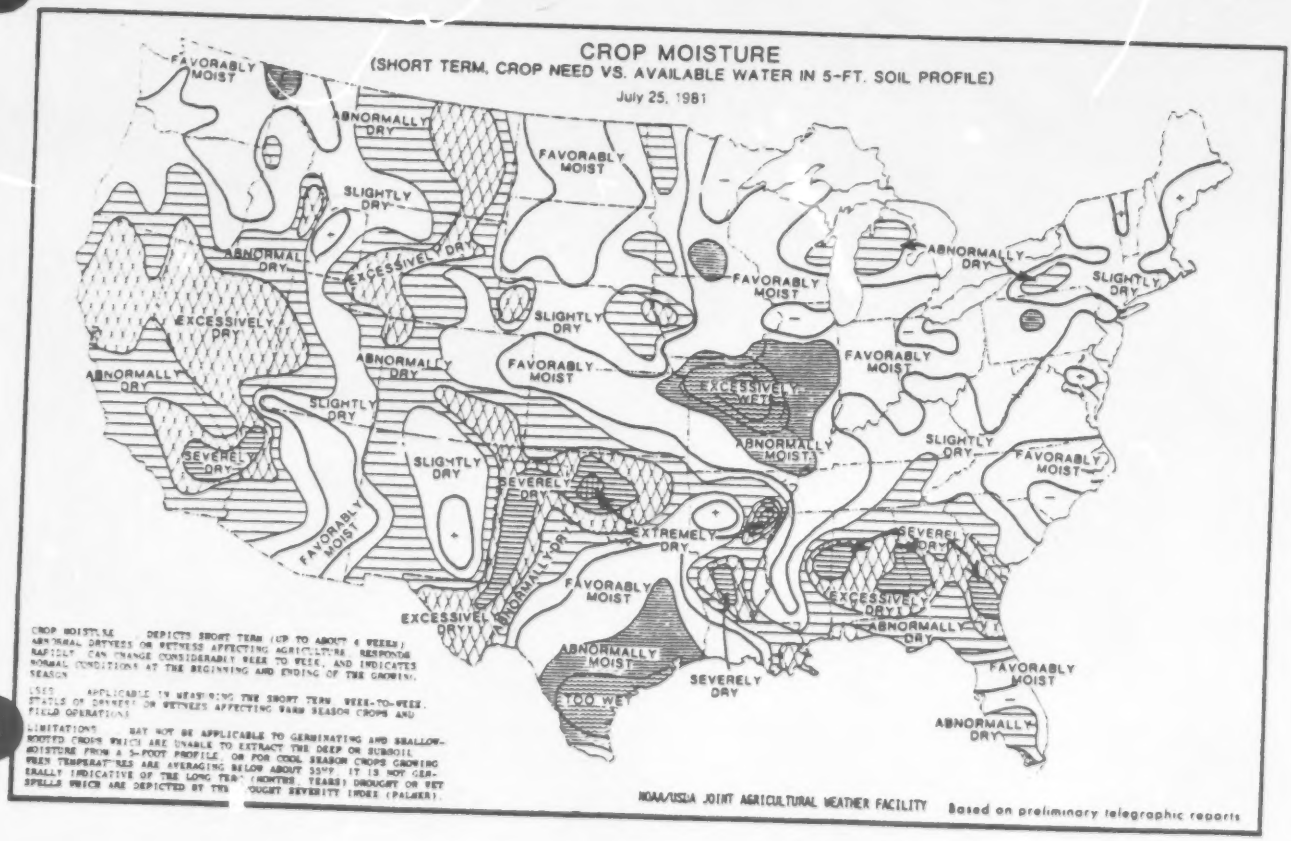
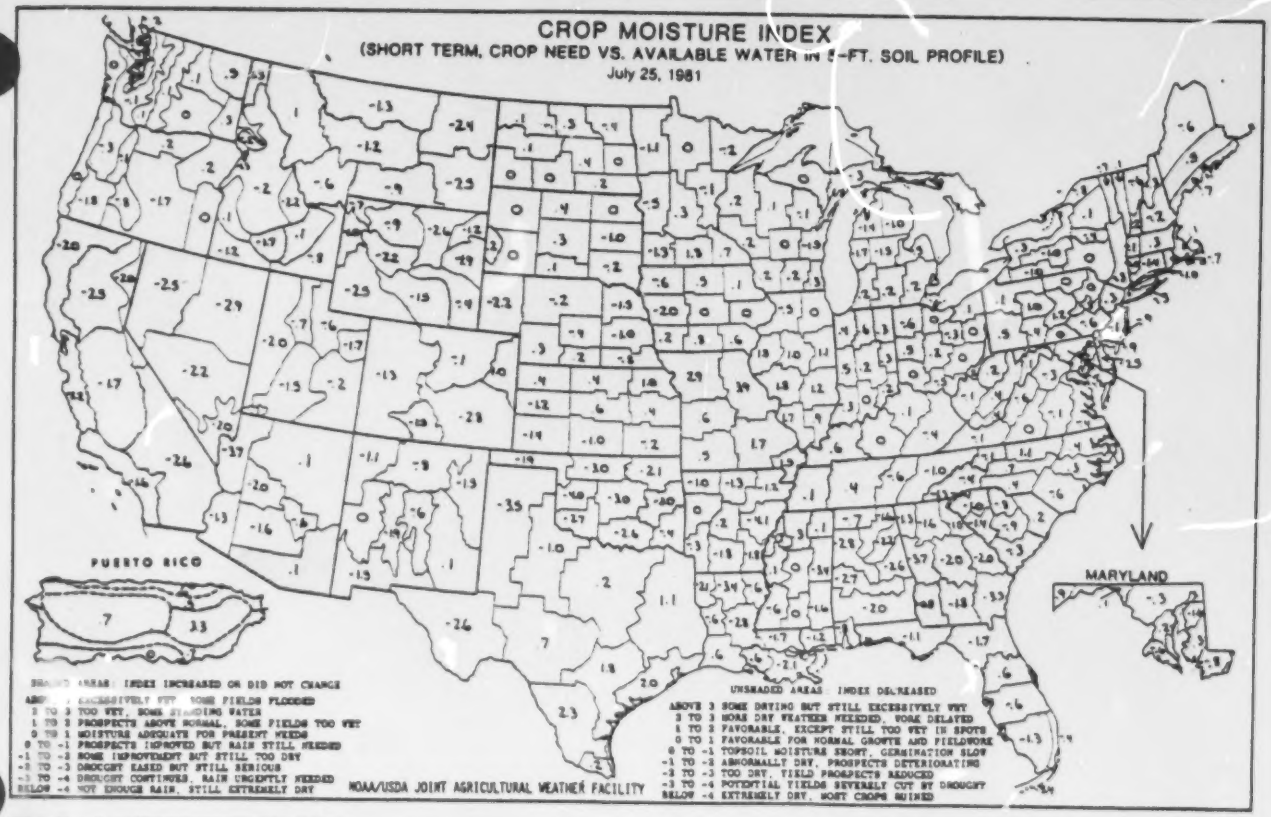
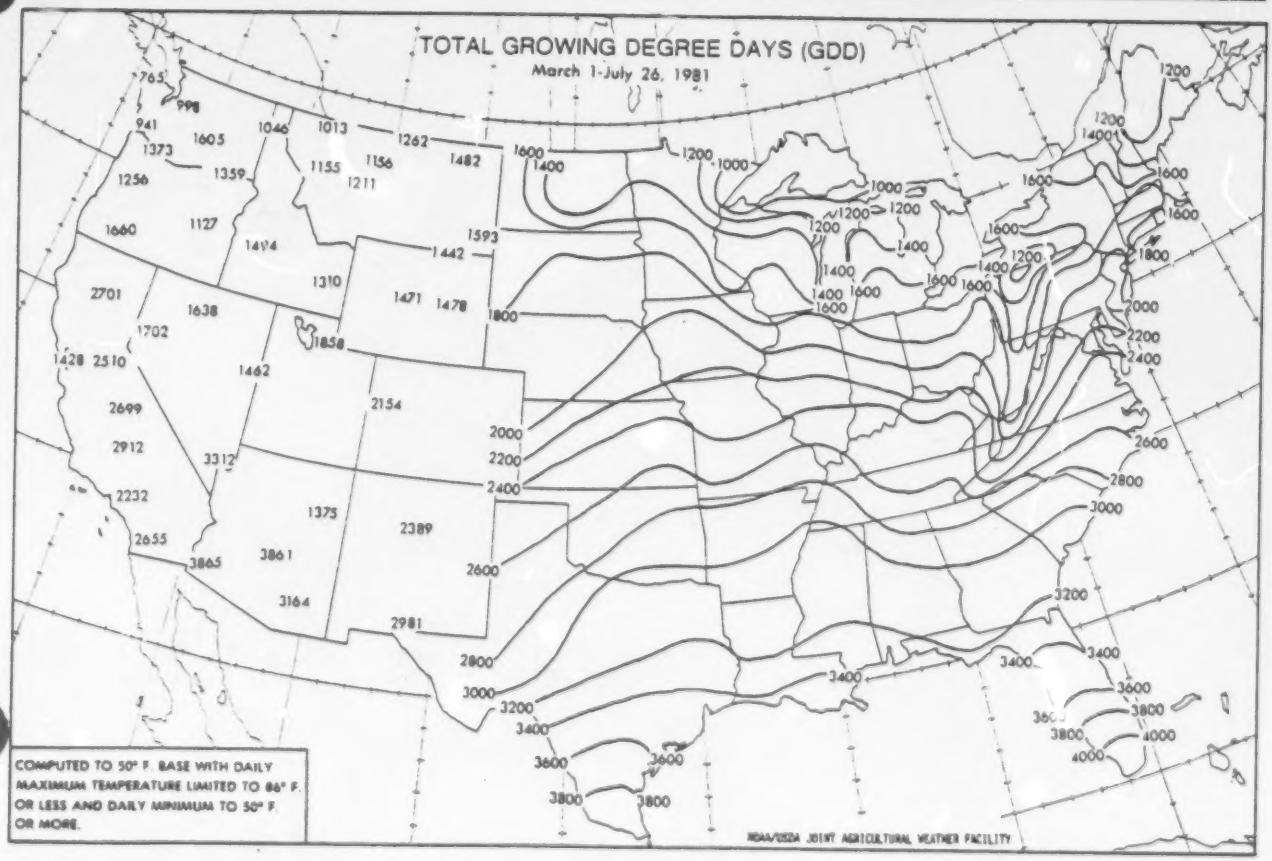
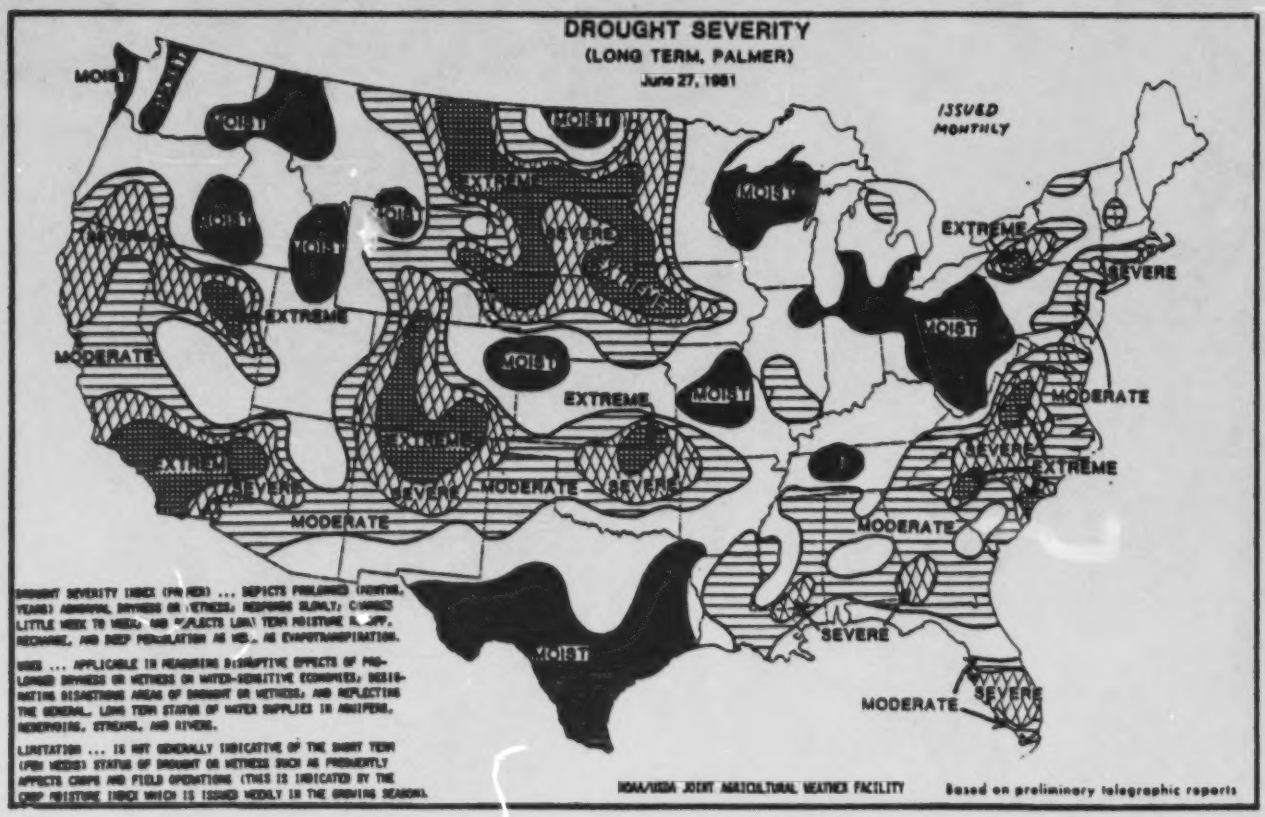
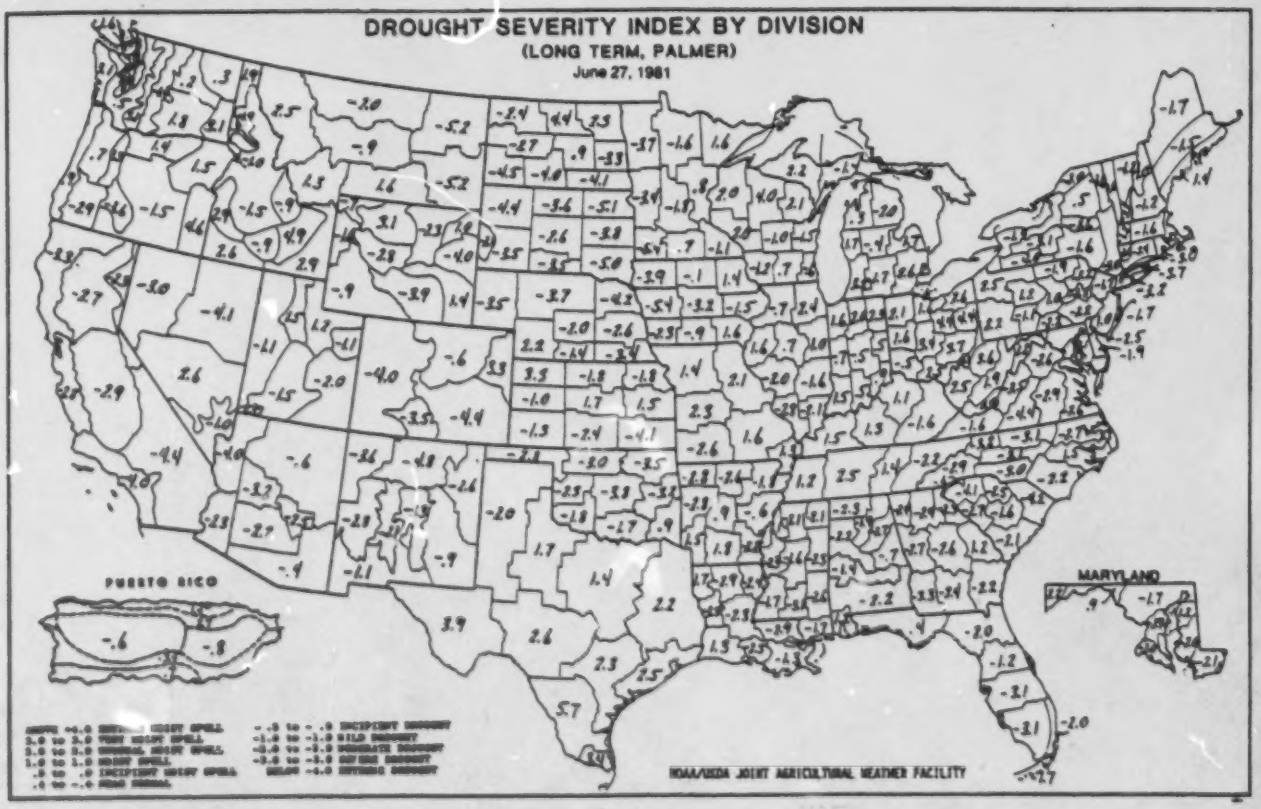

TOTAL PRECIPITATION, INCHES
July 20-26, 1981
SCALE OF SHADES
No Measurable Precipitation
0.01 to 0.3 inch
0.3 to 0.8 inch
0.8 to 2 inches
Over 2 inches
ALASKA
HAWAII
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary telegraphic reports


CROP MOISTURE
(SHORT TERM, CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE)
July 25, 1981
FAVORABLY MOIST
ABNORMALLY DRY
SLIGHTLY DRY
EXCESSIVELY DRY
SEVERELY DRY
EXTREMELY DRY
ABNORMALLY MOIST
EXCESSIVELY WET
TOO WET
CROP MOISTURE - DEPICTS SHORT TERM (UP TO ABOUT 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE. RESPONSE RAPIDLY CAN CHANGE CONSIDERABLY WEEK TO WEEK, AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND ENDING OF THE GROWING SEASON
USES - APPLICABLE IN MEASURING THE SHORT TERM, WEEK-TO-WEEK, STATUS OF DRYNESS OR WETNESS AFFECTING WARM SEASON CROPS AND FIELD OPERATIONS
LIMITATIONS - MAY NOT BE APPLICABLE TO GERMINATING AND SHALLOW-ROOTED CROPS WHICH ARE UNABLE TO EXTRACT THE DEEP OR SUBSOIL MOISTURE FROM A 5-FOOT PROFILE, OR FOR COOL SEASON CROPS GROWING WHEN TEMPERATURES ARE AVERAGING BELOW ABOUT 55°F. IT IS NOT GENERALLY INDICATIVE OF THE LONG TERM (MONTHS, YEARS) DROUGHT OR WET SPELLS WHICH ARE DEPICTED BY THE PALMER DROUGHT SEVERITY INDEX (PALMER).
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY Based on preliminary telegraphic reports


CROP MOISTURE INDEX
(SHORT TERM, CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE)
July 25, 1981
PUERTO RICO
MARYLAND
UNSHADED AREAS: INDEX DECREASED
ABOVE 3 SOME DRYING BUT STILL EXCESSIVELY WET
3 TO 2 MORE DRY WEATHER NEEDED, WORK DELAYED
1 TO 2 FAVORABLE, EXCEPT STILL TOO WET IN SPOTS
0 TO 1 FAVORABLE FOR NORMAL GROWTH AND FIELDWORK
0 TO -1 TOPSOIL MOISTURE SHORT, GERMINATION SLOW
-1 TO -2 ABNORMALLY DRY, PROSPECTS DETERIORATING
-2 TO -3 TOO DRY, YIELD PROSPECTS REDUCED
-3 TO -4 POTENTIAL YIELDS SEVERELY CUT BY DROUGHT
BELOW -4 EXTREMELY DRY, MOST CROPS RUINED
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY


TOTAL GROWING DEGREE DAYS (GDD)
March 1-July 26, 1981
COMPUTED TO 50° F. BASE WITH DAILY MAXIMUM TEMPERATURE LIMITED TO 86° F. OR LESS AND DAILY MINIMUM TO 50° F. OR MORE.
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY


DROUGHT SEVERITY
(LONG TERM, PALMER)
June 27, 1981
ISSUED MONTHLY
MOIST
EXTREME
SEVERE
MODERATE
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary telegraphic reports


DROUGHT SEVERITY INDEX BY DIVISION
(LONG TERM, PALMER)
June 27, 1981
PUERTO RICO
MARYLAND
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

North Dakota Crop & Livestock Reporting Service

P.O. Box 3166, Fargo, North Dakota 58108
Telephone: (701) 237-5771 Ext. 306

U.S. Department of Agriculture
Economics & Statistics Service

Cooperating
North Dakota State University
Agricultural Experiment Station
Dept. of Agricultural Economics

FARM REPORTER

ISSUED TWICE MONTHLY

Issue No. 7-81

Released: March 20, 1981

IN THIS ISSUE

Prospective Plantings
Milk Production
Annual Slaughter
Potato Stocks
N.D. Ag Exports
Cattle on Feed
Farmers' Newline

1981 PROSPECTIVE PLANTINGS

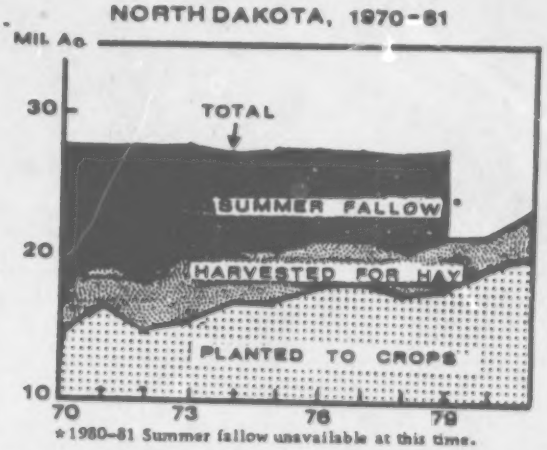
NORTH DAKOTA: Farmers are planning to increase plantings for all major field crops in 1981 except for hard red spring wheat, flax and sugarbeets. Sharp increases are expected for dry edible beans and hay, both with a 17 percent jump and barley with a 16 percent increase.

These acreage intentions estimates are based on a mail and telephone interview survey of farmers conducted as of March 1. Processors and crop contractors were also surveyed. Potatoes were not included in this survey. Actual plantings may vary from these estimates due to weather, economic conditions and the effect of this report itself.

Hard red spring wheat is expected to be seeded on 7.0 million acres, 3 percent less than 1980 but 9 percent more than for the 1979 crop. Durum wheat seedings are expected to total 4.8 million acres, up 9 percent from last year, 44 percent above 2 years ago.

Intentions for all sunflower plantings total 2.66 million acres, up 6 percent from 1980. Both oil and non-oil types will increase.

ACREAGE UTILIZATION
NORTH DAKOTA, 1970-81



*1980-81 Summer fallow unavailable at this time.

Barley seedings are anticipated at 2.15 million acres, 16 percent more than last year. Oats are expected to be seeded on 1.15 million acres, 10 percent more than last year. Corn for all purposes is expected to total 730,000 acres, 4 percent more than last year.

Flaxseed plantings would total 350,000 acres if intentions are realized, which is down 8 percent from 1980. Soybean acreage is expected to total 220,000 acres, a 5 percent increase from 1980. Another record breaking acreage of dry edible beans is in the offing with 310,000 acres expected to be planted, 17 percent more that last year.

Sugarbeet acreage is expected to remain relatively stable at 146,000 acres. Acreage to be harvested for all hay is expected to increase 17 percent from last year's relatively smaller acreage to 3.3 million acres in 1980.

The crop planting total for 1981 in this report plus winter wheat and rye, at 19.8 million acres, represents a 5 percent increase in plantings over 1980 and 11 percent more than in 1979.

PROSPECTIVE PLANTINGS - March 1981

Crop	NORTH DAKOTA Planted Acres 5-Yr. Avg. 1975-79	NORTH DAKOTA Planted Acres 1980	NORTH DAKOTA Planted Acres Indicated 1981	NORTH DAKOTA 1981 as % 1980	UNITED STATES Planted Acres 1980	UNITED STATES Planted Acres Indicated 1981	UNITED STATES 1981 as % 1980
	Thousand Acres			Pct.	Thousand Acres		Pct.
Corn, All	564	700	730	104	84,106	83,977	100
Soybeans	179	210	220	105	70,087	69,817	100
Durum Wheat	3,404	4,400	4,800	109	5,525	6,135	111
Other Spring Wheat	6,876	7,200	7,000	97	17,480	17,007	97
Oats	1,418	1,050	1,150	110	13,360	13,513	101
Barley	2,262	1,850	2,150	116	8,283	9,085	110
Flax	580	380	350	92	809	666	82
Sugar Beets	150.4	147.6	146.0	99	1,231.6	1,256.1	102
Sunflower, Oil 1/	1,408	2,270	2,400	106	3,719	3,589	97
Non-Oil 1/	173	230	260	113	291	316	109
All 1/	1,580	2,500	2,660	106	4,010	3,905	97
Dry Edible Beans	123	265	310	117	1,896	2,005	106
All Hay 2/	3,410	2,820	3,300	117	59,437	61,031	103

1/ Minn., S.D., N.D. & Texas. 2/ [illegible]e for harvest.

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U.S. Department of Agriculture
Economics & Statistics Service

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Dept. of Agricultural Economics

FARM REPORTER

ISSUED TWICE MONTHLY

Issue No. 14 - 81
Released: July 1, 1981

IN THIS ISSUE

June Acreage
Agricultural Prices
Cattle on Feed
Farm Safety
USDA Reorganization

FARMERS PLANT MORE

NORTH DAKOTA: Total acreage planted to major crops in 1981 increased by 9 percent from 1980. Increases were registered for all estimated crops except rye and sugarbeets. Potato acreage was not included in this report but will be released July 10.

Hard red spring wheat seedings totaled 7.4 million acres, up 3 percent from 1980. Durum wheat was seeded on 4.6 million acres, up 5 percent and the largest durum acreage since 1978. Winter wheat acreage seeded last fall totaled 145,000 acres, up 7 percent. Total wheat acreage, at 12,145,000 acres, was up 3 percent.

Barley seedings totaled 2.33 million acres, up 26 percent from 1980 and the most since 1978. Oats was seeded on 1.2 million acres, up 14 percent from both 1980 and 1979 but 9 percent less than in 1978. Corn plantings totaled 850,000 acres, up 21 percent.

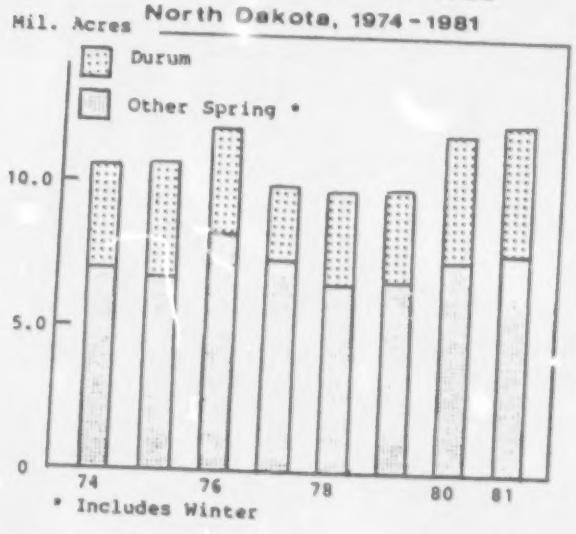
Oil-type sunflower plantings totaled 2.52 million acres, up 11 percent from 1980 but 24 percent less than in 1979. Non-oil sunflower acreage increased 22 percent to a record high 280,000 acres. Soybean acreage was up 7 percent to 225,000 and flaxseed acreage increased 5 percent to 400,000 acres.

Acreage planted to dry edible beans jumped 40 percent to a record 370,000 acres. Dry bean acreage has now more than tripled in two years. Sugarbeet plantings were down slightly to 147,000 acres. Rye was seeded on 90,000 acres last fall, down 10 percent. Acreage cut for hay was expected to be up 6 percent to 3.0 million acres with 1.5 million alfalfa or alfalfa mixtures and 1.5 million other hay.

UNITED STATES: All wheat acreage seeded is estimated to be 88.8 million acres, up 10 percent from 1980. Durum wheat seeded acreage at 5.84 million acres is up 6 percent from 1980. Other spring wheat at 17.2 million acres seeded is 2 percent below 1980. Harvested winter wheat at 58.6 million acres is 14 percent above last year.

All sunflower acreage at 4.045 million acres is up 1 percent. Oil varieties totaled 3.688 million, down 1 percent, but non-oil varieties increased 23 percent from 1980. Barley seedings increased 17 percent and oat acreage is up 2 percent. Corn plantings are up 1 percent with acreage to be harvested for grain up 2 percent.

Flax acreage is down 16 percent to 680,000 acres, but dry bean acreage jumped 20 percent to 2,265,000 acres. Sugarbeet acreage was up 2 percent, while 2 percent less acreage was planted to soybeans. Acreage cut for hay is expected to be virtually unchanged from last year.



1981 AGRICULTURAL SUMMARY NOW AVAILABLE

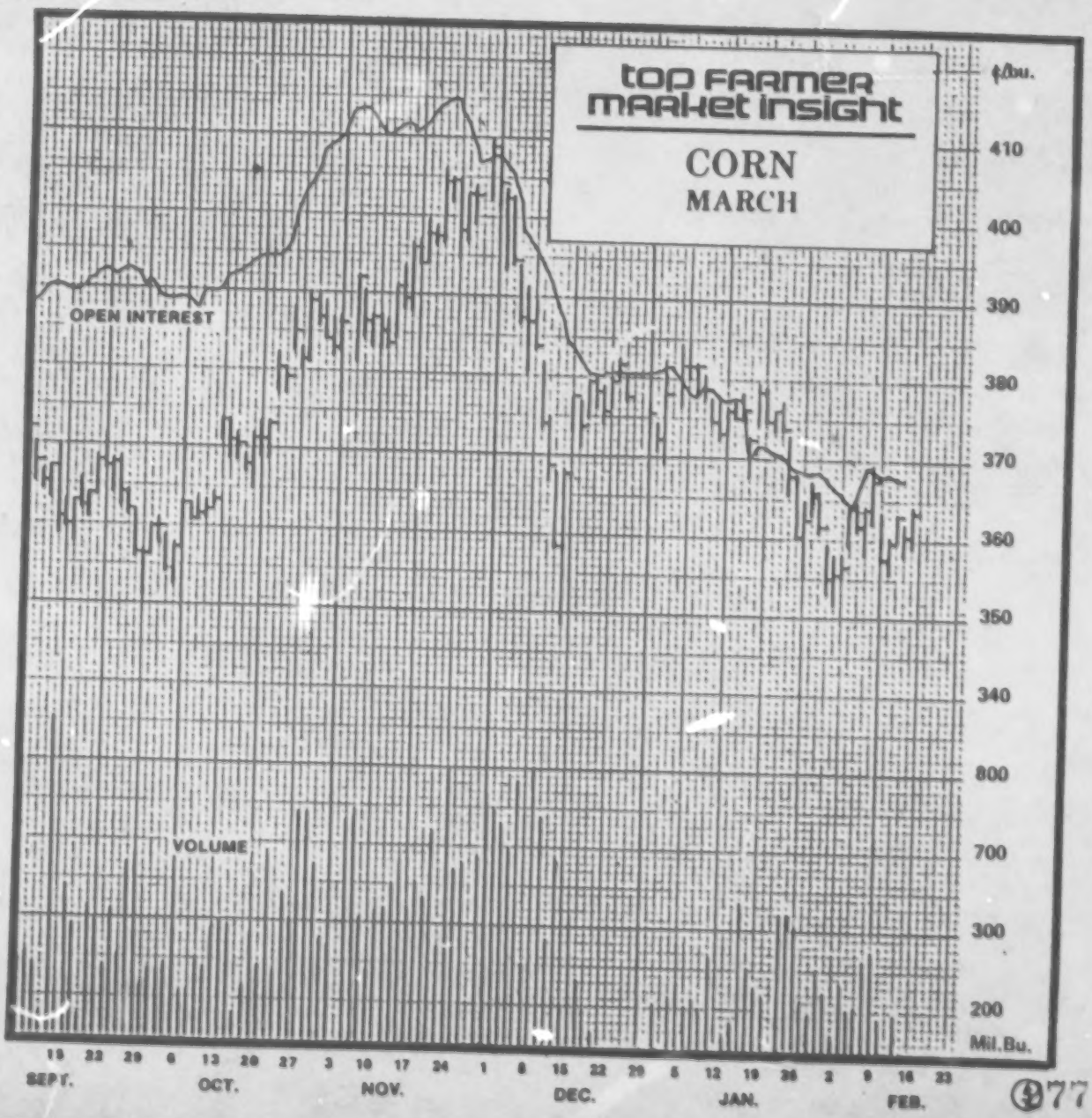
The 1981 North Dakota Agricultural Statistics bulletin is now available. This bulletin contains a comprehensive summary of 1980 crop and livestock statistics. Statistics are published at both the State and county levels of many items. The book is available free of charge, upon request. Copies may be obtained by contacting the North Dakota Crop and Livestock Reporting Service, P.O. Box 3166, Fargo, ND 58108.

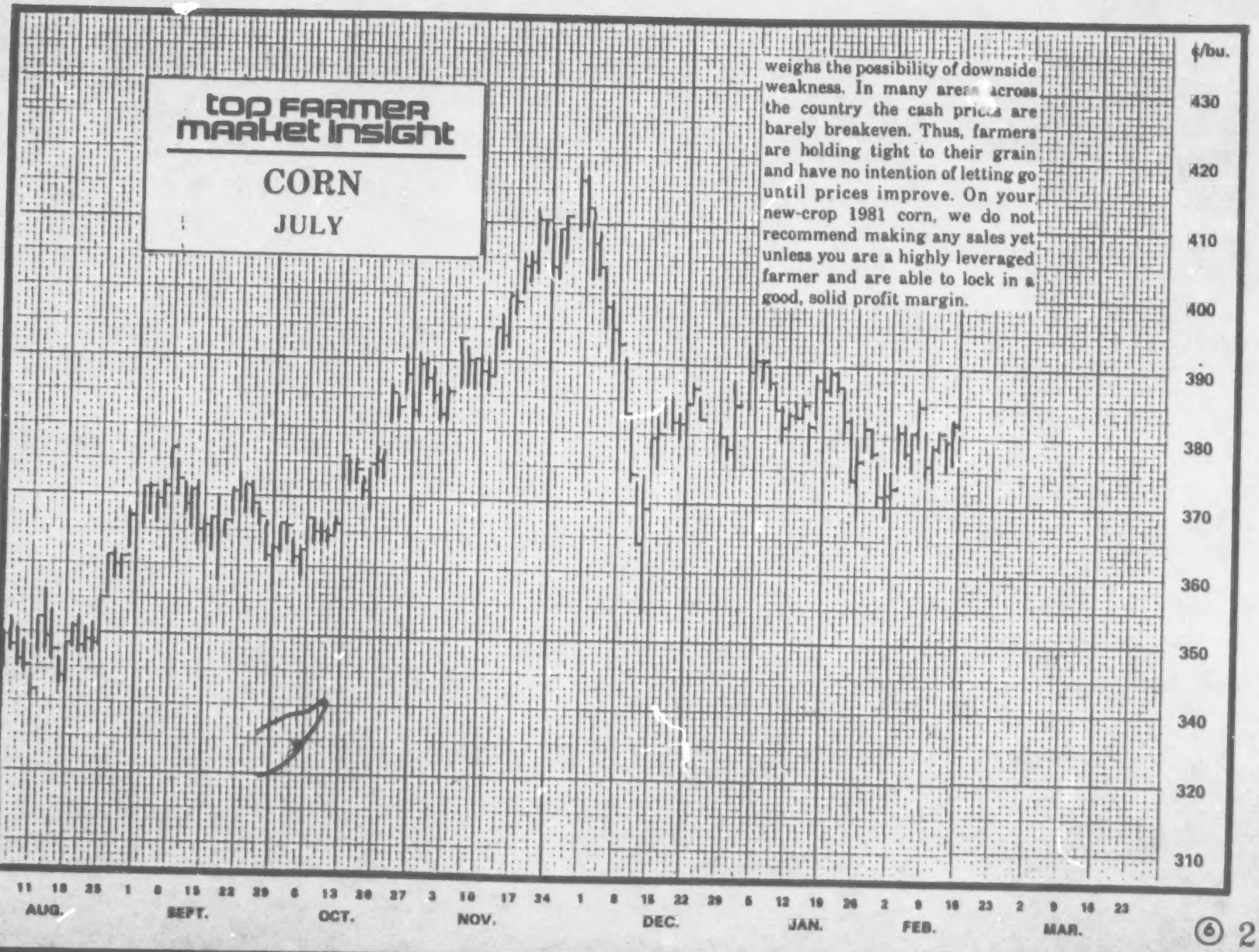
Handout 8 Lesson 6

CORN

THIS WEEK'S MARKET:
Corn prices are once again moving in a sideways trading range. This past week we we saw price action that is typical of a trading range market. One day prices are down, the next day prices are up. This is also typical for this time of year when there are *no uncertainties* about the old crop and there are *no certainties* about the new crop. Technically, the March futures has been holding well above support at $3.50 and below resistance at $3.70. A move above $3.70 would set prices up to move up to test the $3.80 to $3.85 area. The latest pricing activity has been characterized by steady buying interest when prices dipped down and steady selling when prices rallied upward. This market is very tricky to try to trade and, thus, it is best to stand aside. With the price prospects of bare pipeline supplies by the end of this crop year and the potential for a continuation in the dry weather pattern, there is still the possibility of a major price rally. This price rally could carry the nearby futures back to the $4 level. A break above this $4 level would project prices to go as high as $4.60 on the weekly charts.

WHAT TO DO: On previous advice you should now have 50% of your cash crop sold. We recommend continuing to hold at this level. The potential of price strength this spring or summer far out




top FARMER
market insight
CORN
JULY
weighs the possibility of downside weakness. In many areas across the country the cash prices are barely breakeven. Thus, farmers are holding tight to their grain and have no intention of letting go until prices improve. On your new-crop 1981 corn, we do not recommend making any sales yet, unless you are a highly leveraged farmer and are able to lock in a good, solid profit margin.
¢/bu.
430
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4 11 18 25 1 8 15 22 29 6 13 20 27 3 10 17 24 1 8 15 22 29 5 12 19 26 2 9 16 23 2 9 16 23
AUG.
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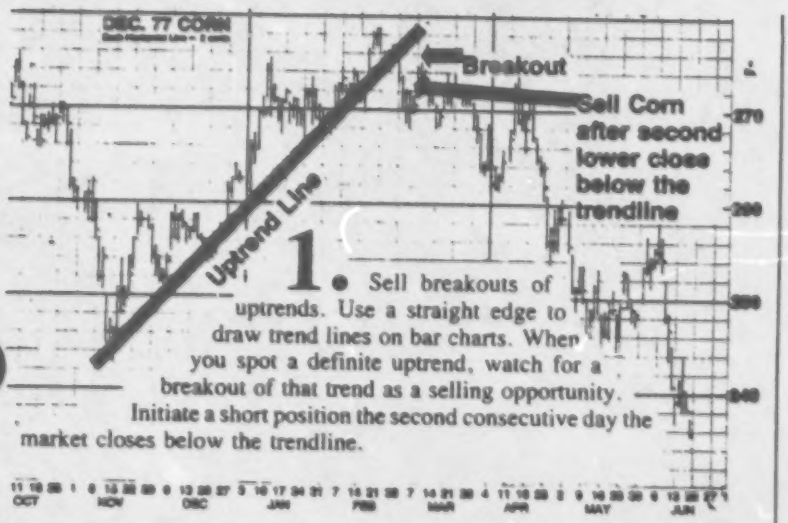
MAR.

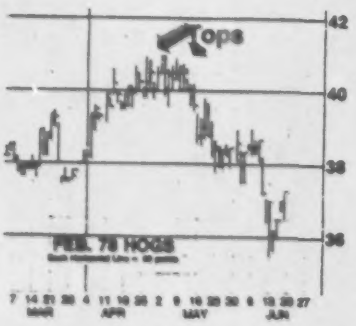
Using Commodity Price Charts

Commodity trading pros use many "rules of thumb" to spot price trends early, select their position, and to time their market entry and exit. None are more important than price chart analysis — or more readily available to every trader. Here are highlights of some of the chart rules which you can quickly apply to your own program.

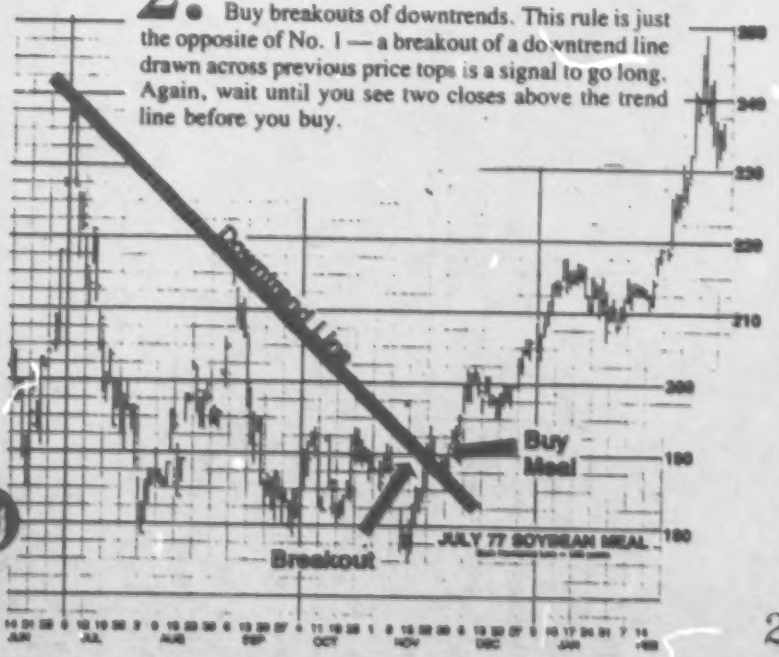
Best of bar chart rules



1. Sell breakouts of uptrends. Use a straight edge to draw trend lines on bar charts. When you spot a definite uptrend, watch for a breakout of that trend as a selling opportunity. Initiate a short position the second consecutive day the market closes below the trendline.

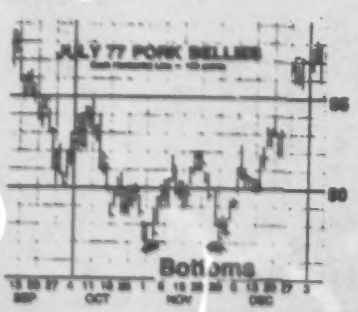


3. Sell double or triple tops. Any time you see a contract hitting the same price area for the second or third time, it means a good selling opportunity. There's a high percentage chance that, once a commodity price hits the same level and falls back, the commodity has priced itself out of usefulness for the present time and is due for a significant price reduction. Such a signal provided by a commodity price chart can be worth thousands of dollars to a short seller.



2. Buy breakouts of downtrends. This rule is just the opposite of No. 1 — a breakout of a downtrend line drawn across previous price tops is a signal to go long. Again, wait until you see two closes above the trend line before you buy.

4. Buy double or triple bottoms. This is just the reverse application of the previous rule. If you are looking for a buying opportunity and spot a double or triple bottom, you can buy with a much higher degree of confidence than you could if you didn't have access to commodity price charts. Confidence level is an important aspect of speculating because it helps you take profitable positions early.



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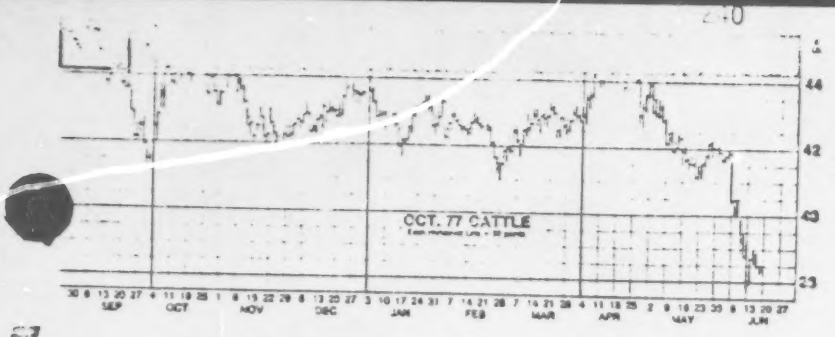
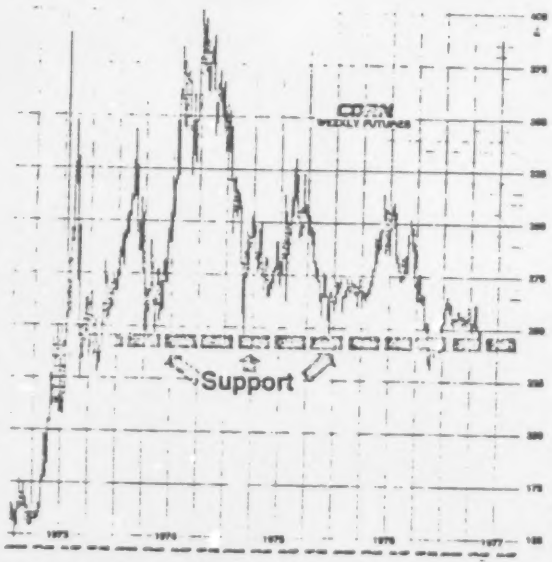
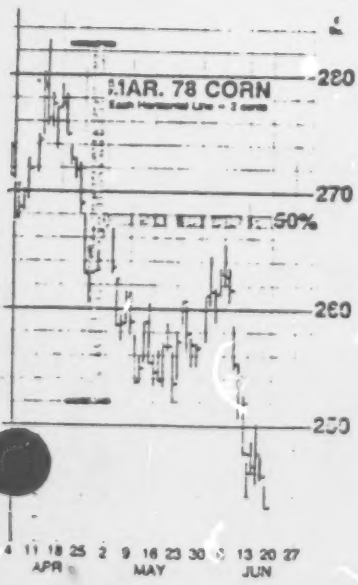


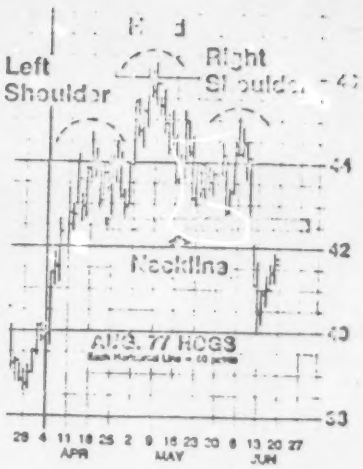
5 o Sell when prices hit resistance areas. Areas of price congestion are future areas of price resistance or price support. Let's take a look at the October cattle chart as an example. The market traded between $44.50 and $45.50 last September and again in October. Then, when prices broke out of the congestion area on the downside, the congestion area became a level that was hard to penetrate on the next few rallies. A speculator could use this resistance area as a good opportunity to go short, then lift the short with about a $2 profit on each rally back to the congestion area. That strategy would have made $6 in the market above, or about $12 when used with No. 6.



6 o Buy when prices dip to support areas. Take a look at the long-term chart on corn and notice how the $2.50 area was a level of support over the last [illegible] years until breaking last fall. When prices of the nearby contract came close to $2.50 (the support area), corn was a good buy. This is an application of the congestion area to long-term charts, but the rule also applies to an individual contract option.

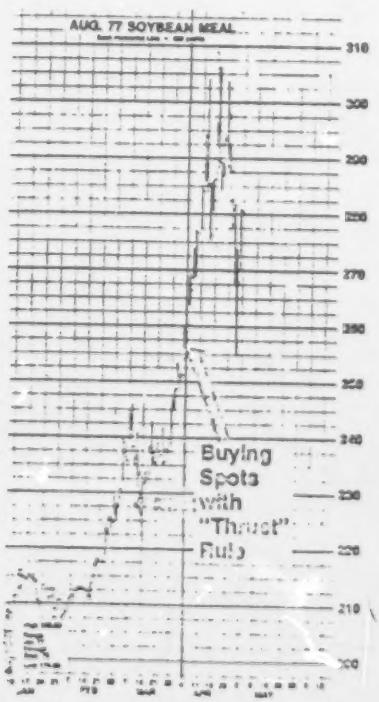


7 o Sell a 50% retracement of a downtrend. If the price of a commodity has dropped sharply and begins to rally, you can usually expect a 50% retracement of the major downward move. That means if you missed a selling opportunity, this kind of rally would be a good place to put on some hedges. If the market continues to rally, look for it to make a 66⅔% retracement, which would be a good place to add to your sales. (In our corn example, the rally actually fell about 2¢ short of a full 50% retracement.)



8 o Sell head and shoulders tops. This one gets a bit tricky, but if you can detect a head and shoulders formed by price action on a chart, you usually can sell with confidence once the price breaks below the neckline after the second shoulder is formed. This may sound a little "nutty" to the trader used to watching USDA reports, but lots of money is traded every day by professionals who watch these technical clues. You should be equipped with the same information.

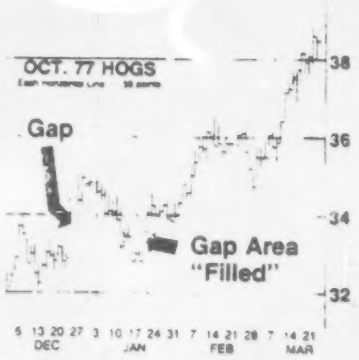
9 o Use the "thrust" rule to catch a running market. If the market is running up, watch for a one-day pullback in price — a lower high and lower low. Then the next day if the price breaks the previous day's high, you



buy. In runaway markets like soybean meal in 1977, this technique helped speculators get in on part of the runup. The reverse would be true in a falling market. You would wait for a day when the market had a higher high and higher low than the previous day. Then, on the following day, you would sell short if the market [illegible] below the previous day's low.

10. Use price "gaps" as objectives. There's an old rule among chart traders that states that price gaps are usually filled. A price gap is formed when prices open higher than the previous day's high and continue to move higher for at least several days. Or a gap could be formed in a downtrend by the market opening lower than the previous day's low and continuing on its downtrend.

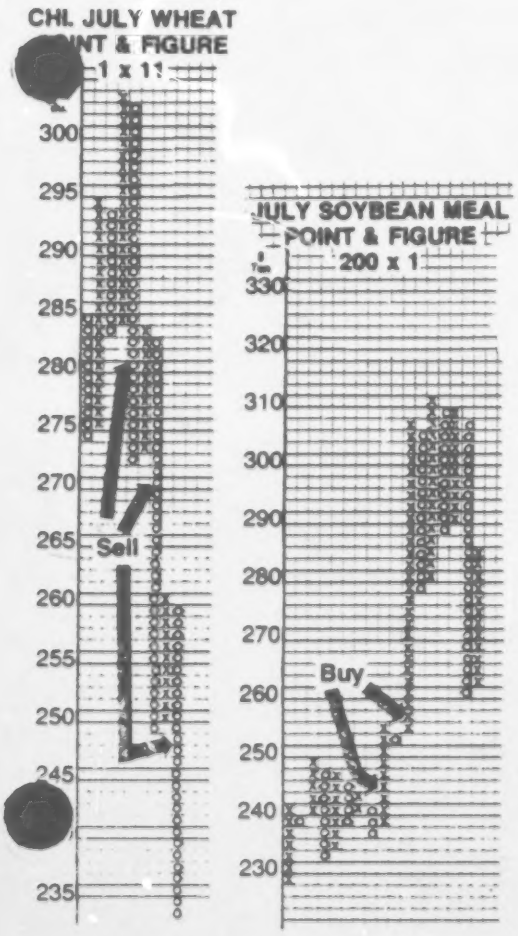
These price gaps become future price objectives and should be kept in mind when you are deciding when to place an order. Notice how the October 1977 hog chart made a large gap in late December only to be filled in mid-January. This filling action was a signal for shorts to lift their positions. Once the gap was filled, the market price moved $5 higher in two months.



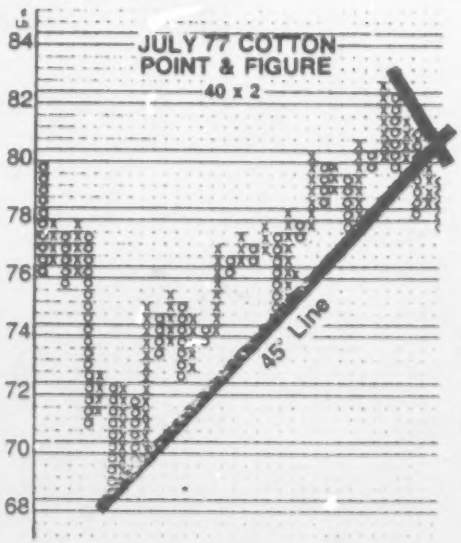
Best of point-and-figure chart rules

1. Sell when point-and-figure says sell. When the column of O's breaks below the previous column of O's, that's a signal to be short. Used with bar chart analysis, it's another signal that the odds are in your favor.

2. Buy when point-and-figure says buy. When the column of X's moves above the previous column of X's, that's the signal to go long. Used with other chart techniques available in Commodity Price Charts, point-and-figure charts give you added confidence in your analysis.

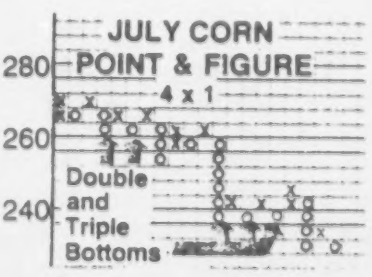


3. The 45° line offers solid support and resistance. Trend lines aren't as useful on point-and-figure charts, but 45° lines have a relatively high degree of reliability. Notice how on the July 1977 cotton contract that the 45° line was the support line for several months. The support line is one good place for shorts to lift their positions. A break through this support line was a sign to sell cotton at 79¢. A new 45° line formed at the top of the chart and offered price resistance or opportunities to add to sales as the market rallied to touch that trend line.

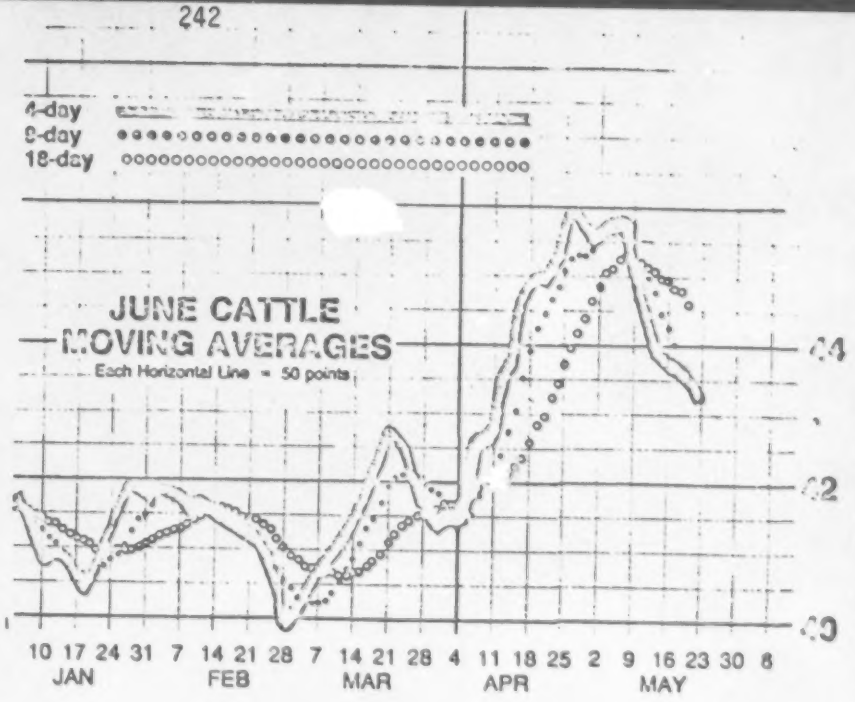


4. Double and triple tops and bottoms are good clues. Just as with bar charts, breaking double and especially triple tops or bottoms is a good indicator of future price trends. If prices break a triple bottom, you can sell with more confidence.

There are many other point-and-figure chart formations, but these are the most important and highly reliable of the point-and-figure rules that hedgers can use.



Best of moving average chart rules



Moving averages are best used in a trend-following trading program — and in the commodities which produce longer trends: wheat, soybeans, corn, soybean meal, soybean oil, cattle, hogs, bellies, potatoes, sugar and copper.

Because moving averages often do not provide valid price clues in trading range markets, traders should use them in conjunction with other charts, or as confirmation that a trend has turned or developed.

Moving averages are figured by averaging the price over the past "X" days. The most telling moving average charts are formed by comparing the moving averages for two or more different time periods, such as the 4-, 9- and 18-day averages used by Commodity Price Charts.

When the average of the shortest time period crosses the average of the longest time period, there is usually a breakout worthy of a speculator's attention. In the case of 4-, 9- and 18-day averages, the buy signal is confirmed when the 9-day average crosses the 18-day average. It works just the other way for selecting short positions (see illustration).

Moving averages can help you avoid taking a position too early — before the trend develops — or help you get out before it's too late.

1. Buy when the 4-day line is moving higher and crosses the 9-day and 18-day moving average line. On the June cattle chart, a buy signal was given on March 8.

2. Sell when the 4-day line is moving lower and crosses the 9-day and 18-day moving average lines. The same June cattle chart shows a sell signal on March 28.

3. Use moving averages as stop loss protection. If you h profit in a contract that you would like to protect, using a m average as a trailing stop may be a good way to protect the profit. In the event of a potential loss, the moving average could be used to minimize the loss also.

One problem with moving averages is that they can "whipsaw" a trader in a market that is trading in a congestion area. Moving averages are most helpful in markets that make a breakout and move for several cents or dollars before reversing.

Prepared by Commodity Price Charts, 219 Parkade, Cedar Falls, Iowa, 50613. Selected Additional Sources Of Information On Charting Are:

Brock, Richard A., **Charting Farm Markets,** Top Farmers of America, 22E Michigan, Milwaukee, Wisconsin.

McDonald, Hugh J., Charting Commodity Prices, EC-643, Cooperative Extension Service, North Dakota State University, Fargo, ND.

Thompson, Louis M., **Charting the Grain Futures Market,** Iowa State University, Ames, Iowa.

Handout 12
Lesson 6

What Makes A Normal Basis?

1. Transportation (location, rail lines, roads)
2. Cost of storage
3. Risk
4. In general a normal demand for storage
5. Normal crop
6. Normal storage available

What Makes A Wider Than Normal Basis?

1. Inadequate transportation
2. Larger than normal crop
3. Great demand for storage
4. High interest

What Makes A Smaller Than Normal Basis?

1. Small crop
2. Unusual demand for immediate delivery of cash grain
3. Empty storage at terminals and ports
4. Unstorable grain

CHECKLIST OF MARKETING FACTORS

	SELL	HOLD
* COST OF PRODUCTION		
* FUNDAMENTAL ANALYSIS		
* TECHNICAL ANALYSIS		
* SEASONAL AND CYCLICAL TRENDS		
* BASIS OUTLOOK		
* CASH FLOW NEEDS		